MADRAS FOREST COLLEGE
LIBRARY
COIMBATORE

A WORKING PLAN FOR THE FORESTS OF THE VELLORE WEST DIVISION

1936-37 TO 1945-46

BY

A. R. BRAND, ESQ.,
Assistant Conservator of Forests

Under the direction of the Conservator of Forests, Working Plans Circle

MADRAS
PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRESS

1940

TNFA - CBE
Centenary Library
01401

A WORKING PLAN FOR THE FORESTS OF THE VELLORE WEST DIVISION

1936-37 TO 1945-46

BY

A. R. BRAND, Esq.,

Assistant Conservator of Forests

Under the direction of the Conservator of Forests, Working Plans Circle

TNFA - CBE
Centenary Library
01401

MADRAS

PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRESS

1940

2649
628
HO;1

TABLE OF CONTENTS

PART I.

Summary of Facts on which Proposals are based.

PARAGRAPH		PAGE
	CHAPTER I.—THE TRACT DEALT WITH.	
	SECTION 1.—NAME AND SITUATION.	
1	Name	1
2	Situation	1
3–4	Area	1
	SECTION 2.—CONFIGURATION OF THE GROUND.	
5	Altitude and topography	1
6	The Javadi hills	1
7	The Yelagiris	1
8–9	The plains	1
10	Drainage	2
	SECTION 3.—GEOLOGY, ROCK AND SOIL.	
11	Sub-soil	2
12	Surface soil..	2
13	Humus	2
	SECTION 4.—CLIMATE.	
14–15	General	2
16	Winds	2
17	Rainfall	2
18	Malaria	3
	SECTION 5.—WATER-SUPPLY.	
19–20	Water-supply	3
	SECTION 6.—DISTRIBUTION OF THE AREA.	
21	Distribution of the area	3
	SECTION 7.—STATE OF BOUNDARIES.	
22	General	4
23	Enclosure boundaries	4
	SECTION 8.—LEGAL POSITION.	
24	Reserves	4
25	Unreserves	7
26	Panchayat reserves	7
27–28	Enclosures on the Javadis	7
29–30	Land revenue administration of the hill villages on the Javadis and Yelagiris	7
31	Legal position of Government with reference to sandal on patta lands	7
	SECTION 9.—RIGHTS AND CONCESSIONS.	
32	Granted at settlement	8
33–34	Granted subsequent to settlement, concessions under the 'Forest Village System'	8
35	Land leases	8

CHAPTER II.—THE FOREST.

PARAGRAPH | | PAGE

SECTION 1.—COMPOSITION AND CONDITION OF THE CROP.

PARAGRAPH			PAGE
36	General		9
37	The Hill Forests,	Constitution	9
38	Do.	Sandal	9
39–42	Do.	Bamboos	9
43	Do.	Bamboo-Sandal mixture	9
44–45	Do.	Flowering and dying of bamboo	10
46	Do.	Other species	10
47	Do.	Undergrowth	10
48–49	Do.	Lantana	10
50–51	The Plains Forests,	Constitution	10
52	Do.	Sandal	10–11
53	Do.	Teak, *Pterocarpus marsupium* and rosewood	11
54	Do.	Tamarind	11
55	Do.	Bamboo	11
56	Do.	Prickly pear	11
57	Do.	Lantana	11
58	Do.	The isolated reserves of the Krishnagiri range.	11
59	Botanical list		11

SECTION 2.—INJURIES TO WHICH THE CROP IS LIABLE.

60	General	11
61	Fire	11
62	Theft	11
63	Illicit felling of sandal	11
64	Theft of firewood	12
65–66	Lopping and hacking	12
67–68	Bark stripping	12
69	Animals	12
70–71	Grazing	12
72	Climatic	12
73–74	Injurious plants	12
75–77	Spike disease in sandal	12–13

CHAPTER III.—UTILIZATION OF THE PRODUCE.

SECTION 1.—AGRICULTURAL WANTS AND CUSTOMS OF THE PEOPLE.

78	The population	13
79	Wants of the population	13
80–81	Fuel and small timber	13
82	Bamboo	13
83	Green leaf manure	13
84	Thatch, fodder and broom grass	14
85	Grazing	14

SECTION 2.—MARKETS AND MARKETABLE PRODUCTS.

86	Marketable products	14
87	Sandalwood	14
88	Bamboos	14
89	Minor forest produce	17
90–93	Markets	17

SECTION 3.—LINES OF EXPORT.

94	Railways	17
95	Trunk roads	18
96	Other metalled roads	18
97	Forest roads	18

SECTION 4.—METHODS OF EXPLOITATION AND THEIR COST.

98–99	Sandalwood	18
100	Bamboos	18
101	Fuel	18–19
102	Charcoal	19
103–104	Minor forest produce	19
105	Thatch, fodder and broom grass	19
106–108	Grazing	19–20

PARAGRAPH		PAGE

SECTION 5.—PAST AND CURRENT PRICES.

109	General	20
110	Prices obtained for sandalwood, 1923–24 to 1935–36	20
111	Do. bamboo coupes, 1924–25 to 1935–36	21
112	Do. timber, 1924–25 to 1935–36	22
113	Do. fuel and small timber, 1924–25 to 1935–36	22–23
114	Do. minor forest produce, 1930–31 to 1935–36	23

CHAPTER IV.—STAFF AND LABOUR SUPPLY.

115	Staff, administrative, executive and protective	24
116	Staff, clerical	24
117	Labour-supply	24

CHAPTER V.—PAST SYSTEMS OF MANAGEMENT.

SECTION 1.—GENERAL HISTORY OF THE FOREST.

118	Introduction	24
119–122	Period prior to the passing of the Madras Forest Act in 1882	24–25
123–124	Period subsequent to the passing of the Madras Forest Act in 1882.	25
125–128	Administrative changes	25
129–130	Working Plans	25–26

SECTION 2.—PAST SYSTEMS OF MANAGEMENT AND THEIR RESULTS.

131	Sandal, prior to the last Working Plan, General	26
132–134	Do. do. early Working Plans	26–27
135	Sandal, the last Working Plan, Method of treatment and subdivision of the area	27
136	Sandal, the last Working Plan, Fellings	27
137	Do. Extraction	27
138–139	Do. Tending	27
140	Do. Specially protected blocks	27
141	Do. Regeneration	27
142	Do. Cleaning	28
143	Do. Sowing in blanks	28
144	Do. the more important results	28
145	Small timber, fuel and bamboos, prior to the early Working Plans, before 1882	28
146–147	Small timber, fuel and bamboos, prior to the early Working Plans, 1882, to the introduction of the early Working Plans	28–29
148	Small timber, fuel and bamboos, early Working Plans, Fuel	29
149	Do. do. Timber	29
150	Do. do. Bamboos	29
151	Small timber, fuel and bamboos, early Working Plans, Artificial regeneration	29
152	Small timber, fuel and bamboos, early Working Plans, Minor forest produce	29
153	Small timber, fuel and bamboos, early Working Plans, Grazing	30
154	Small timber, fuel and bamboos, early Working Plans, Fire protection	30
155	Small timber, fuel and bamboos, the last Working Plan, General	30
156–159	Do. do. Fuel	30
160–162	Do. do. Timber	30–31
163–165	Do. do. Bamboos.	31
166–168	Small timber, fuel and bamboos, the last Working Plan, Artificial regeneration	31
169–172	Small timber, fuel and bamboos, the last Working Plan, Minor forest produce	31–32
173–176	Small timber, fuel and bamboos, the last Working Plan, Grazing	32
177–179	Small timber, fuel and bamboos, the last Working Plan, Fire protection	32–33

SECTION 3.—SPECIAL WORKS OF IMPROVEMENT UNDERTAKEN.

180	General	33
181	Roads	33–34
182	Buildings	34–35
183	Wells	35

PARAGRAPH | PAGE

SECTION 4.—PAST YIELDS.

Paragraph		Page
184	General	35
185	Annual yields of sandalwood from the Working Plan area, 1915–16 to 1935–36	36
186	Quantities of sandalwood obtained annually from outside the Working Plan area, 1915–16 to 1935–36	36–37
187	Annual yields of Bamboos, 1924–25 to 1935–36	37–39
188	Do. Fuel and small timber, 1924–25 to 1935–36 ..	40–41
189	Quantities of Minor Forest Produce collected annually, 1930–31 to 1935–36	41–42

SECTION 5.—PAST REVENUE AND EXPENDITURE.

190	Statement of Revenue and Expenditure	42

CHAPTER VI.—STATISTICS OF GROWTH AND YIELD.

SECTION 1.—SANDAL.

191	Growing stock	43
192	Yield of heartwood per tree	43
193	Ratio of girth to yield of heartwood	43–44
194	Yield of heartwood per acre	45
195	Mortality in sandal	45

SECTION 2.—FUEL.

196	Rotation	45

SECTION 3.—BAMBOOS.

197–198	Felling cycle	45–46

PART II.

Feature management discussed and prescribed.

CHAPTER I.—BASIS OF PROPOSALS.

SECTION 1.—GENERAL OBJECTS OF MANAGEMENT.

199–200	The objects of management	46

SECTION 2.—METHODS OF TREATMENT TO BE ADOPTED.

201	Methods of treatment	46–47

SECTION 3.—WORKING CIRCLES, THEIR AREA AND DISTRIBUTION—REASONS FOR THEIR CONSTITUTION.

202	Working Circles	47

SECTION 4.—PERIOD OF WORKING PLAN AND NECESSITY FOR INTERMEDIATE REVISION.

203	The period covered by Working Plan	47

CHAPTER II.—WORKING PLAN FOR THE SANDAL WORKING CIRCLE.

SECTION 1.—GENERAL CONSTITUTION OF THE WORKING CIRCLE, AREA AND CHARACTER OF THE VEGETATION.

204–205	General constitution and area	47
206–209	Character of the vegetation	48

SECTION 2.—ANALYSIS AND VALUATION OF THE CROP.

210	Reserves and unreserves	48
211	Survey fields	48

SECTION 3.—METHOD OF TREATMENT.

212–214	Silvicultural systems	48
215	Felling cycle	49
216	Division of reserves and unreserves into felling series	49
217	Allocation of coupes	49
218–221	Village sandal	49–50
222	Calculation of yield	50

PARAGRAPH		PAGE
	SECTION 4.—METHOD OF EXECUTING FELLINGS.	
223	Regulation of operations	50
224	Clearing coupe boundaries	50
225	Exploitation	51
226	Minimum exploitable size	51
227	Restriction of output	51
	SECTION 5.—TABULAR STATEMENT OF FELLINGS TO BE MADE.	
228	Coupes	51
229	Survey fields	51
	SECTION 6.—SUBSIDIARY SILVICULTURAL REGULATIONS.	
230–231	Tending	51–52
232	Artificial regeneration	52
	SECTION 7.—OTHER REGULATIONS.	
233–234	Fire protection	52
235	Measures for the prevention of the spread of spike disease	52
236–237	Retail sales of sandalwood	52

CHAPTER III.—WORKING PLAN FOR THE FUEL AND SMALL TIMBER WORKING CIRCLE.

	SECTION 1.—GENERAL CONSTITUTION OF THE WORKING CIRCLE, AREA AND CHARACTER OF THE VEGETATION.	
238	General constitution and area	52
239	Character of the vegetation	53
	SECTION 2.—METHOD OF TREATMENT.	
240	Silvicultural system	53
241–242	Division of the area into felling series	53
243	Rotation	53
244	Size and allocation of coupes	53
245	Calculation of the yield	53–54
	SECTION 3.—METHOD OF EXECUTING THE FELLINGS.	
246	Regulation of operations	54
247	Laying out and demarcation of coupes	54
248	Agency of felling	54
249	Area remaining unfelled on the termination of a lease	54–55
250–251	Cutting thorny growth at time of felling	55
252	Useless tree species	55
253	Felling rules	55
254	Disposal of felled material	55
	SECTION 4.—TABULAR STATEMENT OF FELLINGS.	
255	Tabular statement of fellings	55
	SECTION 5.—SUBSIDIARY SILVICULTURAL REGULATIONS.	
256	Artificial regeneration	55
257–258	Heaping slash	56
259	Burning	56
260	Soil preparation and sowing	56
261	Sowing in charcoal kiln sites	56
262	Choice of species	56
263	The collection of seed	56
264–266	Date of sowing	56–57
267	Weeding and tending	57
268	Soil aeration	57

PARAGRAPH PAGE

SECTION 6.—OTHER REGULATIONS.

PARAGRAPH		PAGE
269	Supply of small timber to ryots for the manufacture of agricultural implements	57
270	Green leaf manure	57
271	Indicator areas	57
272	Closure to grazing	57
273	Thorn fence round closed areas and along rights of way	57
274	Coupe stones	57

CHAPTER IV.—WORKING PLAN FOR THE BAMBOO WORKING CIRCLE.

SECTION 1.—GENERAL CONSTITUTION OF THE WORKING CIRCLE, AREA AND CHARACTER OF THE VEGETATION.

275, 276	General constitution and area	57
277	Character of the vegetation	58
278	Flowering and dying of bamboo	58
279	Damage to *Dendrocalamus strictus*	58

SECTION 2.—METHOD OF TREATMENT.

280, 281	General	58
282	Felling cycle	58
283	The intensity of felling in a clump	58
284	The height at which culms should be felled	58
285	Felling rules	59
286	Calculation of the yield	59

SECTION 3.—METHOD OF EXECUTING THE FELLINGS.

287–289	Subdivision of the area	59-61
290	Regulation of fellings	61
291	Period of lease	61

SECTION 4.—TABULAR STATEMENT OF FELLINGS.

292	Tabular statement of fellings	61

SECTION 5.—OTHER REGULATIONS.

293	Hacking of *Dendrocalamus strictus*	62
294	Overworking by contractors	62
295, 296	The construction of new roads and cart-tracts	62
297	Grazing	62
298, 299	Fire protection	62

CHAPTER V.—WORKING PLAN FOR THE MINOR FOREST PRODUCE WORKING CIRCLE.

SECTION 1.—GENERAL CONSTITUTION OF THE WORKING CIRCLES.

300	General constitution	62
301, 302	Subdivision of the area	62-63

SECTION 2.—METHOD OF TREATMENT.

303	Method of treatment	63

SECTION 3.—UNITS OF SALE AND PERIODS OF LEASE.

304	Konnai (*Cassia fistula*) bark	63
305	Avaram (*Cassia auriculata*) and Sural (*Ventilago madraspattana*) barks and gallnuts	63
306	Nux-vomica	63
307	Other minor products	63

PARAGRAPH		PAGE
	SECTION 4.—GREEN LEAF MANURE.	
308	Demand and provision to meet it	63–64
309	Mothod of working	64
310	Cutting rules	64
311	Artificial regeneration of manure leaf species	64
312	Supply from fuel coupes should there be a demand	64
	CHAPTER VI.—WORKING PLAN FOR THE GRAZING WORKING CIRCLE.	
	SECTION 1.—GENERAL CONSTITUTION AND AREA.	
313	General constitution and area	64
	SECTION 2.—METHOD OF TREATMENT.	
314	Introduction	64
315	The objects of management	65
316, 317	Prescriptions	65
	SECTION 3.—FREE GRAZING UNDER THE FOREST VILLAGE SYSTEM.	
318	General	65
319	Terms of the concession	65
320	Grazing blocks	65
321	Refund of grazing fees	65
322	Readmissions to the forest village system and its extension to new villages	65
	SECTION 4.—GRAZING ON PAYMENT OF THE USUAL FEES.	
323	General	65
324	Local and foreign cattle	65
	SECTION 5.—CUTTING AND REMOVAL OF GRASS FROM RESERVES.	
325	Cutting and removal of grass from reserves	66
	SECTION 6.—SUBSIDIARY MEASURES FOR IMPROVEMENT.	
326	Closure of burnt areas	66
327, 328	Improvement of watering facilities	66–67
	SECTION 7.—OTHER REGULATIONS.	
329	Demarcation of closed areas	67
	CHAPTER VII.—MISCELLANEOUS REGULATIONS.	
	SECTION 1.—FIRE PROTECTION.	
330, 331	Introduction	67
332	Prescriptions	67
333	Special protection, areas in which undertaken	67
334	Do. fire rewards	68
335	Do. fines for bad protection	68
336	Do. payment of rewards	68
337	Do. fire protection of fuel coupes which have been regenerated with *rab* sowings	68
338	General protection, areas in which undertaken	68
339	Fire tracing important foot-paths	68
	SECTION 2.—ROADS, BUILDINGS AND WELLS.	
340	Existing roads	69
341	Proposed roads	69
342	Existing buildings	69
343	Proposed buildings	69
344	Wells	69

PARAGRAPH		PAGE
	SECTION 3.—MISCELLANEOUS PRESCRIPTIONS.	
345, 346	Green leaf manure experimental plantation	70
347	Demand for greenwood for the manufacture of combs	70
348	Lantana	70
349	Sandalwood trees occurring outside the Sandal Working Circle ..	70
350	Removal of silt from tank beds and manure from pens ..	70
351	Maintenance of boundaries	70
	SECTION 4.—CONTROL.	
352	General	70
353, 354	Sandal Working Circle	71
355	Fuel and Small Timber Working Circle	71
356	Bamboo Working Circle	71
357	Minor Forest Produce Working Circle	72
358	Grazing Working Circle	72
359	The whole Working Plan area	72
	CHAPTER VIII.—ESTABLISHMENT AND LABOUR.	
360	Establishment	73
361	Labour	73
	CHAPTER IX.—FINANCIAL FORECAST AND COST OF WORKING PLAN.	
362	Financial forecast	73–76
363	Cost of the Working Plan	77
	SUMMARY OF PRESCRIPTIONS.	
	Sandal Working Circle	78
	Fuel and Small Timber Working Circle	78–79
	Bamboo Working Circle	79–80
	Minor Forest Produce Working Circle	80
	Grazing Working Circle	80–81
	Miscellaneous Regulations	81–82
	Establishment and Labour	82
	APPENDICES.	
I.	List of Reserves, Vellore West division	82
II (*a*)	Government Order No. 1462, Revenue, dated 10th June 1907 ..	83
II (*b*)	Proceedings of the Board of Revenue, Forest No. 134, Miscellaneous, dated 11th April 1918	83–84
II (*c*)	Government Order No. 1497, Revenue, dated 20th May 1911 ..	84
III.	Botanical list (*a*) Arranged alphabetically according to natural orders	85–89
	(*b*) Arranged alphabetically according to Tamil names	89–93
IV.	Statement of grazing incidence, 1926–27 to 1935–36	94
V.	Statement showing names of villages under the forest village system, the number of cattle in each village and the area and location of its grazing block	94–95
VI.	Village sandal—List of survey fields in which sandalwood trees are the property of Government, with the area, situation and classification of each field	96–106
VII.	Standing orders for the detection and control of spike disease of sandal	106–108
VIII.	Bamboo coupe descriptions	108–113
IX.	Government Order Ms. No. 227, Development, dated 26th January 1938	113–114
X.	Government Order Ms. No. 778, Development, dated 25th March 1938	114
XI.	Control forms	114–122

A WORKING PLAN FOR THE FORESTS OF THE VELLORE WEST DIVISION 1936-37 TO 1945-46.

PART I

SUMMARY OF FACTS ON WHICH PROPOSALS ARE BASED.

CHAPTER I.—THE TRACT DEALT WITH.

SECTION 1.—NAME AND SITUATION.

1. *Name.*—This Working Plan deals with the reserved forests of the Vellore West forest division, which are still under the control of the Forest Department and the unreserves for the exploitation of sandalwood, tanning barks and gallnuts throughout the division, nux-vomica in the Krishnagiri range and bamboos and all minor products on the Javadi, Tenmalai and Yelagiri hills. Provision is also made for the exploitation of sandalwood from poramboke and patta lands on the Javadi, Tenmalai and Yelagiri hills, in which the sandalwood trees are the property of Government. The plan will be known as the Vellore West Working Plan.

2. *Situation.*—The Vellore West forest division was constituted a separate unit in December 1932 as a result of the partition of the then Vellore forest division. The tract falls between latitudes N. 12° 6′ and 12° 49′ and longitudes E 78° 2′ and 78° 58′ and the greater part of it lies between the Madras-Bangalore road and the Kangundi zamindari in the north and the Ponniar river in the south. It is bounded on the east and west by the Vellore East and Salem North forest divisions respectively.

3. *Area.*—The division is 1,569 square miles in extent and comprises the following three revenue taluks :—

		SQ. MILES.
Tiruppattur taluk ..	North Arcot district ..	581
Chengam taluk ..	Do. ..	301
Krishnagiri taluk ..	Salem district	687

4. The area of reserved forest still under Forest department control is 349·51 square miles, distributed in four ranges as follows :—

	SQ. MILES.
Alangayam range	77·16
Tiruppattur range	88·31
Chengam range	136·18
Krishnagiri range	47·86

A list of reserves with their areas is given in Appendix I.

SECTION 2.—CONFIGURATION OF THE GROUND.

5. *Altitude and topography.*—The tract shows great variation in altitude and configuration. It is briefly described below under three heads, viz., the Javadi hills, the Yelagiris and the Plains.

6. *The Javadi hills.*—The range runs approximately north-east and south-west and covers some 300 square miles in the eastern portions of Alangayam and Tiruppattur ranges and in the northern portion of the Chengam range. It attains a maximum length of about 40 miles and a maximum width of about 16 miles. The outer slopes are steep, rocky and often precipitous. The centre and south of the range, also extending into the neighbouring Vellore East division, consists of extensive undulating plateaux with large valleys cutting across them and interspersed by occasional peaks. The average height above mean sea level is approximately 2,500 feet. The highest point in the division is Kumbugudi Malai, 3,826 feet, on the common boundary between the Alangayam and Tiruppattur ranges. That part of the Javadis situated in the Chengam range goes by the local name of Tenmalais.

7. *The Yelagiris* have the appearance of an extinct volcano with steep rocky sides and good forests, grossly overworked in the past, on the inner slopes of what corresponds to the crater. They are situated in the centre of the Alangayam range and cover an area of about 28 square miles.

8. *The Plains.*—These comprise the more or less flat stretches extending from the foot of the hills to the limits of the cultivation and other private holdings in the valleys and low-lying country. The height above mean sea level varies from about 1,000 feet in the south and east to about 2,000 in the west where the country borders the Mysore plateau.

9. The forests of the Krishnagiri range are situated on isolated hills rising some 1,200 or 1,300 feet above the surrounding plains. These hills are just gigantic heaps of boulders of all sizes, interspersed with shallow soil, and support a very poor type of forest.

10. *Drainage.*—The country slopes mainly from west to east and is drained by the Palar river in the north and the Ponniar river in the south. Rivers of secondary importance are the Cheyyar, in the Chengam range, flowing south and westwards and ultimately meeting the Palar river about 10 miles east of Conjeeveram, and the Pambar flowing southwards through the Tiruppattur range and meeting the Ponniar a few miles south of Singarapet.

SECTION 3.—GEOLOGY, ROCK AND SOIL.

11. *Sub-soil.*—The underlying rock is mostly granitic gneiss in various stages of disintegration, with frequent, sometimes extensive, outcrops of granite.

12. *Surface soil.*—The soil varies from a hard and stony type on the hill sides, where disintegrated quartz predominates, to a fertile red clayey loam on the plateaux and in the valleys. In the former case little or no forest growth exists, while in the latter, the depth of soil is capable of supporting reasonably good tree growth.

13. *Humus.*—The soil is strikingly devoid of humus. The little leaf mould which is formed each year crumbles into powder in the dry season and, owing to the steepness of the country, a usually very open canopy and the scarcity, and often complete absence, of protective undergrowth, is carried away by the pre-monsoon showers in April and May.

SECTION 4.—CLIMATE.

14. *General.*—The climate of the Javadis and Yelagiris is particularly favourable to the growth of sandalwood, combining as it does comparative coolness with plenty of sunshine and a very fair rainfall, the latter however never being sufficient to set up a waterlogged condition of the soil, so unfavourable for the development of this species.

15. The plains and the foot of the hills are hot and dry. During the months of November, December and January the weather becomes pleasant but never cold.

16. *Winds.*—The division is subject to the usual monsoon winds, but these are generally not strong enough to cause damage to forest growth.

17. *Rainfall.*—Rainfall figures have been recorded at five stations in the division. The monthly rainfall recorded at each station over a period of ten years, 1925 to 1934, is given in the statement below. It is seen that the rainfall is distributed throughout the year, the ..eaviest falls occurring during the north-east monsoon in October. The annual average varies from 27·2 inches at Kambugudi to 53·9 inches at Melpattu..

Statement of monthly rainfall, 1925–34.

Year.	Rainfall in inches.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total for the year.
KAMBUGUDI STATION.													
1925	..	..	..	0·6	7·8	1·6	2·6	5·6	3·1	*	*	*	..
1926	*	..	0·4	1·2	2·4	2·0	1·2	*	*	*	*	*	..
1927	*	*	*	*	*	*	4·4	2·4	6·0	..	4·4	..	..
1928	..	..	..	..	7·2	..	2·4	9·2	1·8	3·2	1·8	1·2	26·8
1929	1·2	..		3·4	2·0	4·0	2·1	2·0	3·2	5·6	6·8	1·0	31·3
1930	..	..	..	..	4·0	7·2	..	..	2·0	13·3	..	3·6	30·9
1931	..	..	..	0·8	1·4	0·6	4·0	0·5	4·2	3·4	7·6	3·8	26·3
1932	..	..	..	..	4·0	0·4	..	3·6	1·2	2·4	8·8	0·4	20·8
1933	..	0·4	0·8	0·8	*	*	*	*	*	1·6	1·8	2·4	..
1934	2·0	..	..	..	0·2	0·4	0·8	3·2	1·2	14·8	4·0	0·4	27·0
Average (excluding 1925, 1926, 1927 and 1933).	**0·7**	..	..	**0·7**	**3·1**	**2·1**	**1·6**	**3·1**	**2·3**	**7·1**	**4·8**	**1·7**	**27·2**
ANDIYAPPANUR STATION.													
1925	..	..	..	1·0	4·2	0·4	2·9	5·2	1·6	3·2	5·4	..	23·9
1926	4·0	..	0·2	2·0	1·8	1·6	1·2	4·4	5·4	7·2	1·6	..	29·4
1927	..	..	..	..	1·2	6·4	2·0	3·2	9·6	..	2·0	..	24·4
1928	..	..	..	..	..	1·6	6·0	11·6	4·4	4·8	2·8	1·2	32·4
1929	..	..	..	4·4		8·0	4·4	2·4	3·8	8·8	7·2	4·0	43·0
1930	0·3	..	..	..	12·0 ..	4·4	..	..	10·4	3·6	6·0	3·2	39·9
1931	..	..	..	1·0	3·8	2·8	8·0	2·4	7·2	3·6	8·0	4·0	40·8
1932	..	1·0	..	..	3·8	4·0	..	2·4	1·6	6·0	3·6	0·8	23·2
1933	..	0·8	0·4	0·8	3·6	..	0·8	8·0	1·8	6·4	0·6	0·4	23·6
1934	2·0	..	2·0	..	2·2	3·6	1·2	3·0	0·8	10·0	2·8	0·4	28·0
Average ..	**0·6**	**0·2**	**0·3**	**0·9**	**3·3**	**3·3**	**2·7**	**4·3**	**4·7**	**5·4**	**4·0**	**1·4**	**30·9**
MELPATTU STATION.													
1925	..	..	0·8	1·1	12·3	..	1·8	7·0	15·0	5·4	10·4	5·9	59·7
1926	5·0	..	1·2	1·7	..	2·0	4·0	4·0	10·4	7·6	2·8	0·7	39·4
1927	..	1·4	..	1·2	3·8	2·5	4·1	7·3	9·2	0·3	7·2	1·1	38·1
1928	0·4	4·8	..	0·1	4·4	3·2	3·6	14·4	2·8	30·7	5·6	0·4	70·4
1929	..	..	..	5·9	2·0	4·8	1·6	4·1	11·3	6·2	5·8	7·4	49·1
1930	1·9	7·7	..	0·8	8·0	2·8	0·1	3·6	5·6	33·0	6·8	1·2	71·5
1931	..	..	..	..	8·4	3·6	1·8	0·8	8·9	2·3	15·6	4·6	46·0
1932	..	0·2	..	1·8	7·7	7·1	0·8	17·8	5·2	15·6	11·6	2·4	70·2
1933	1·4	..	2·2	3·3	7·1	1·4	0·6	17·6	5·6	9·6	2·4	5·2	66·4
1934	3·9	..	..	0·8	1·2	4·8	4·4	6·4	4·4	10·4	..	1·6	37·9
Average ..	**1·3**	**1·4**	**0·4**	**1·7**	**5·5**	**3·2**	**2·3**	**8·3**	**7·8**	**12·1**	**6·8**	**3·1**	**53·9**

Statement of monthly rainfall, 1925–34—*cont.*

Year.	Rainfall in inches. January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total for the year.
Alangayam Range Office Station.													
1925	..	..	2·2	2·1	3·3	0·4	5·7	3·7	..	0·8	2·4	6·4	27·0
1926	4·0	..	0·4	3·8	2·6	3·5	4·6	3·2	10·0	9·0	2·6	..	43·7
1927	..	..	..	0·9	2·5	4·9	3·4	1·9	8·9	1·1	3·6	..	27·2
1928	1·6	1·4	0·6	1·3	2·4	3·3	2·7	8·5	5·2	11·6	1·4	1·6	41·6
1929	0·8	..	..	2·8	2·6	9·2	2·8	3·2	2·0	7·2	5·8	2·2	38·6
1930	0·9	5·0	0·4	0·8	7·5	4·0	4·0	3·8	6·5	12·5	8·0	1·0	54·4
1931	..	..	..	0·4	1·2	6·1	11·2	1·1	4·4	5·4	6·0	4·9	40·7
1932	..	0·5	..	0·9	3·6	6·8	1·2	6·9	1·3	7·9	9·6	1·2	39·9
1933	..	..	0·4	..	3·8	1·2	1·4	9·0	4·8	9·4	0·8	4·6	35·4
1934	2·8	..	..	1·2	3·8	3·9	2·9	4·2	2·9	14·0	2·0	..	37·7
Average ..	**1·0**	**0·7**	**0·4**	**1·4**	**3·3**	**4·3**	**4·0**	**4·6**	**4·6**	**7·9**	**4·2**	**2·2**	**38·6**
Kottur Station.													
1925	..	..	0·3	2·0	7·1	9·5	3·2	9·0	1·6	9·6	3·2	5·6	51·1
1926	..	1·2	..	3·5	1·4	4·0	4·5	3·5	6·8	9·6	2·0	..	36·5
1927	..	..	..	..	4·8	11·2	3·6	6·1	6·0	6·8	4·8	0·6	43·9
1928	..	1·4	0·8	0·7	4·7	4·0	4·0	8·1	6·4	12·6	1·4	1·6	45·7
1929	1·2	..	..	2·6	2·6	8·4	2·4	3·8	3·9	4·0	7·5	1·6	38·0
1930	0·6	3·0	0·2	0·8	8·4	2·2	3·7	2·4	3·2	13·1	11·3	0·8	49·7
1931	..	..	..	1·5	..	3·6	11·2	0·8	7·6	1·8	9·6	3·6	39·7
1932	..	0·8	..	..	5·6	6·0	1·6	5·6	1·6	6·0	10·4	0·8	38·4
1933	..	..	2·0	..	5·2	0·8	3·6	17·2	1·6	7·6	0·8	4·4	43·2
1934	2·4	..	..	..	3·6	5·2	4·0	5·2	0·8	11·6	2·0	..	34·8
Average ..	**0·4**	**0·6**	**0·3**	**1·1**	**4·3**	**5·5**	**4·2**	**6·2**	**4·0**	**8·3**	**5·3**	**2·0**	**42·1**

* Not recorded.

18. *Malaria.*—The forests of the division have an evil reputation for malaria, particularly during the period January to June. The camps on the Javadis plateau are worse than others. There is in some quarters a feeling that this reputation is exaggerated, but judging by the health of the subordinates employed on enumeration and stockmapping in connection with this plan, it would seem that it is fully justified.

SECTION 5.—WATER-SUPPLY.

19. Water-supply to all subordinates' quarters and rest-houses is mostly from wells and is generally satisfactory. The usual sources of supply to the villages in the enclosures are tanks and wells. The rivers and streams, with the exception of the Ponniar in the south of the division, carry water only for a few days after rain has fallen. A tube well was put in at the Kavalur rest-house in 1922 at a cost of Rs. 2,279 and is still working satisfactorily.

20. The question of watering facilities in grazing grounds needs attention. The sources of supply are wells and tanks of which there are 22 requiring improvement or repair. The probable cost will be about Rs. 2,640. The question is dealt with in paragraph 327 below.

SECTION 6.—DISTRIBUTION OF THE AREA.

21. A list of reserves showing the present area of each is to be found in Appendix I. The names and areas of the beats into which each range is divided are given in the following statement. Details of headquarters and staff are also shown.

Serial number. (1)	Name of beat. (2)	Area in acres. (3)	Headquarters. (4)	Staff—Number of Guards. (5)	*Watchers. (6)	Foresters. (7)
	Alangayam Range.					
1	Alangayam	5,750·00	Alangayam	1	1	..
2	Badakuppam	7,894·00	Do.	1	1	..
3	Nayakanur	12,924·00	Kavalur	1	1	..
4	Pungulam	6,304·00	Mithoor	1	1	..
5	Mangalam	7,366·00	Do.	1	1	..
6	Jalarpet	4,167·00	Chinnaponneri	1	1	..
7	Nagaluthu	4,328·00	Krishnapuram	1	1	..
8	Kottur Series	3,646·00	Kottur	1	1	1
9	Kavalur (road work)	..	Kavalur	1	..	1
	Tiruppattur Range.					
1	Andiappanur	4,759·46	Andiappanur	1	1	..
2	Rajapalayam	4,759·00	Rajapalayam	1	1	..
3	Mambakkam	4,897·00	Matrapalli	1	1	..
4	Mottur	5,974·00	Bommikuppam	1	1	..
5	Govindapuram	5,004·10	Govindapuram	1	1	..
6	Singarapettai	6,898'10	Singarapettai	1	1	..
7	Thagarakuppam	7,934·00	Kilayur	1	1	..
8	Nadukuppam	5,916·00	Paramanandal	1	1	1 (for 8–10)
9	Chinnasamudram	4,430·00	Chinnasamudram	1	1	
10	Kuppanatham	5,944·00	Arasankanni	1	1	
11	Kambugudi series	7,025·00	Kambugudi	1	1	1
12	Mambakkam series	6,705·00	Pudur	1	1	1
13	Pudur series	7,028·00	Pudur	1	1	1
14	Nellivasal series	9,394·00	Nellivasal	1	1	1

* Excludes bungalow watchers.

Serial number. (1)	Name of beat. (2)	Area in acres. (3)	Headquarters. (4)	Staff—Number of Guards. (5)	Staff—Number of *Watchers. (6)	Staff—Number of Foresters. (7)
			CHENGAM RANGE.			
1	Palamarathur series	14,650·00	Kuttathur	1	1	1
2	Melpattu series	5,860·00	Melpattu	1	1	1
3	Nellivoy series	6,033·00	Nellivoy	1	1	1
4	Oorgavandanur	6,000·13	Oorgavandanur	1	1	..
5	Cheyyar	8,516·80	Paramanandal	1	1	..
6	Mudanai	11,103·98	Pudupalayam	1	1	..
7	Thalayuru	6,740·00	Porasupattu	1	1	..
8	Anandavady	8,269·00	Melpallipattu	1	1	..
9	Ravandavady	10,604·50	Melravandavady	1	1	..
10	Puliampatty	8,976·00	Puliampatty	1	1	..
11	Sorapanandal	5,964·00	Ariyakunjur	1	1	..
			KRISHNAGIRI RANGE.			
1	Neralakotta	6,912·00	Gollapalli	1	1	..
2	Kothur	4,175·92	Kothur	1	1	..
3	Bargur	3,855·36	Kundibonatham	1	1	..
4	Neralapalli	3,736·00	Chinnathakampalli	1	1	..
5	Maharajagadai	6,162·00	Maharajagadai	1	1	..
6	Ekkalnatham	5,962·00	Medugampalli	1	1	..

* Excludes bungalow watchers.

SECTION 7.—STATE OF BOUNDARIES.

22. *General.*—Reserve and enclosure boundaries are demarcated by cleared lines 12 to 18 feet wide. Angles and intermediate points are marked either by whitewashed stone pillars, 4 to 6 feet high, bearing arrow marks and the letters 'R.F.' or stone cairns surmounted by granite slabs similarly marked.

23. *Enclosure boundaries.*—The enclosure boundaries as they exist at present agree, in most cases, with the village maps and section 16 notifications; but that there are discrepancies is evident from the fact that in 1931–32 to 1933–34 the common boundaries between certain reserves and the adjoining revenue villages were resurveyed by the Madras Survey Department and, on verification, were found to differ from the descriptions recorded in the original notifications.

SECTION 8.—LEGAL POSITION.

24. *Reserves.*—The reserved forests of the division are the absolute property of the State. The numbers and dates of the section 16 notifications relating to the various reserves are given in the following statement, which also shows the disafforestations effected from time to time.

Statement of Reserves, Vellore West Division.

Number.	Reserve.	Afforestation. Area in acres.	Section 16 notification. Number.	Section 16 notification. Date	Disafforestation. Area in acres.	Section 24 notification. Number.	Section 24 notification. Date.	Transferred elsewhere. Area in acres.	Authority. Number.	Authority. Date.	Present area in acres.	Remarks.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						ALANGAYAM RANGE.						
1	Mangalam	6,080·00	384	(*a*)	..	..	....	..	..	....	6,080·00	(*a*) B.P. Forest No. 18, dated 17th January 1887.
2	Mangalam Extension ..	2,550·00	315	26th June 1906 ..	..	..	....	..	..	....	2,550·00	....
3	Jalarpet	1,661·00	444	14th December 1886.	..	..	....	..	..	....	1,661·00	....
4	Nagaluthu	2,810·00	388	(*b*)	..	..	....	..	..	....	2,810·00	(*b*) B.P. Forest No. 18, dated 17th January 1887.
5	Nagaluthu Extension ..	1,225·00	306	26th June 1900 ..	..	..	....	..	..	....	1,225·00	....
6	Narasingapuram	2,187·00	444	14th December 1886.	..	..	....	..	..	....	2,187·00	....
7	Alangayam	11,590·00	208	23rd May 1887 ..	..	..	....	..	..	....	11,590·00	....
8	Kalarapatti	2,054·00	(*c*)	....	..	..	....	..	..	....	2,054·00	(*c*) B.P. Forest No. 18, dated 17th January 1887.
9	Pungulam	9,203·00	386	(*d*)	..	..	....	..	..	....	9,203·00	(*d*) B.P. Forest No. 606, dated 6th November 1886.
10	Inner Javadis	10,025·00	125	9th March 1895 ..	..	..	....	..	..	....	10,025·00	Vide (*g*) against Inner Javadis of Tiruppattur range.
						TIRUPPATTUR RANGE.						
1	Andiyappanur	9,514·00	514	24th October 1894.	..	..	....	..	..	....	9,518·46	(*e*) Added in accordance with B.P. Forest No. 38, dated 9th March 1916.
2	Inner Javadis	4·46 31,665·00	(*e*) 125	9th March 1895 ..	226·00 30·84(*f*)	15 ..	23rd December 1899.	..	..	....	21,383·16(*g*)	.... (*f*) Area deducted in accordance with G.O. No. 1076, Dev., dated 11th June 1924. (C.C.P. No. 202, dated 20th June 1924). (*g*) Balance of 10,025·00 acres lie in Alangayam range.
3	Mambakkam	10,608·00 39·00(*h*)	436	1st November 1886.	..	..	....	..	..	....	10,647·00	(*h*) Difference due to incorrect computation originally of the area of Kilanur enclosure. Vide notification on page 20 of Part I of the *Fort St. George Gazette*, dated 7th January 1886 and revised notification on pages 1668 and 1669 of Part I of the *Fort St. George Gazette*, dated 31st August 1925.
4	Mambakkam Extension ..	224·00	133	12th March 1917 ..	..	..	....	..	..	....	224·00	....
5	Govindapuram	2,304·00	402	19th August 1892 ..	..	..	....	..	..	....	2,304·00	....
6	Singarapettai	2,624·00 12·80(*i*)	257	8th July 1887 ..	..	..	....	..	..	....	2,636·80	(*i*) Excess of actual area over that originally notified.
7	Singarapettai Extension ..	6,939·00 22·30(*j*)	211	23rd May 1887 ..	..	..	....	..	..	....	6,961·30	(*j*) Area added in accordance with B.P. Forest No. 84, dated 8th January 1916.
8	Chinnasamudram ..	2,841·60	284	6th August 1887 ..	..	..	....	..	..	....	2,841·60	....
						CHENGAM RANGE.						
1	Mudanai	7,042·44	285	6th August 1887 ..	7·46	333	10th November 1923.	..	..	....	7,034·98	....
2	Nallapattu	5,094·00	325	19th July 1892 ..	172·00	60	19th February 1923.	..	..	....	4,922·00	....
3	Paramanandal	1,516·80	194	(*k*)	..	..	....	..	..	....	1,516·80	(*k*) B.P. Forest No. 346, dated 13th May 1893.
4	Palamarathur	5,075·00	324	(*l*)	..	..	....	..	..	....	5,075·00	(*l*) B.P. Forest No. 433, dated 11th August 1892.
5	Tenmalai	31,706·00	323	12th July 1892 ..	3,675·87	295	20th May 1911	..	..	....	28,030·13	....
6	Ponnaiyar	48,577·20	219	18th May 1897 ..	..	..	....	26,897·20	210	18th May 1897 ..	21,680·00 (*m*).	(*m*) Balance area situated in Vellore East Division.

Statement of Reserves, Vellore West Division—cont.

Number.	Reserve.	Afforestation.			Disafforestation.			Transferred elsewhere.			Present area in acres.	Remarks.
		Area in acres.	Section 16 notification.		Area in acres.	Section 24 notification.		Area in acres.	Authority			
			Number.	Date.		Number.	Date.		Number.	Date.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	CHENGAM RANGE—*cont.*											
7	Anandavadi	8,269·00	196	(*n*)	..	..	....	..	..	....	8,269·00	(*n*) B.P. Forest No. 411, dated 26th July 1888.
8	Ravandavadi	10,624·50	66	6th February 1896.	..	..	....	..	..	....	10,624·50	..
	KRISHNAGIRI RANGE.											
1	Maharajagadai	10,630·00	416	31st July 1895 ..	40·00	234	20th June 1932 ..	..	..	....	..	....
					8·00	273	12th July 1932 ..	..	..	....	10,582·00	....
2	Maharajagadai Extension.	1,542·00	24	16th January 1894.	..	..	....	..	..	....	1,542·00	....
3	Neralakotta	6,876·00	30	16th January 1893.	..	..	....	..	..	....	6,876·00	....
4	Burgur	2,044·00	206	17th May 1887 ..	292·00	(*o*)	15th March 1898 ..	..	..	....	1,749·96	(*o*) Not available.
					2·04	(*p*)	....	..	..	....	..	(*p*) Not available.
5	Kottur	4,179·00	170	22nd April 1887 ..	3·08	260	7th July 1933 ..	..	..	....	..	....
					2·63	396	20th November 1933.	..	..	....	..	....
		32·85(*q*)		....	..	..	....	..	..	....	4,206·14	(*q*) Added in accordance with notification No. 393, dated 8th November 1934 at page 2024, Part I of the *Fort St. George Gazette*, dated 13th November 1934.
6	Nandibanda	2,105·00	247	3rd May 1893 ..	..	..	....	..	..	....	2,105·00	....
7	Medugampalli	36·00	149	16th March 1896 ..	..	..	....	..	..	....	36·00	....
8	Neralapalli	3,760·00	75	10th February 1903.	24·00	272	12th July 1932 ..	..	..	....	3,736·00	....

25. *Unreserves.*—Though the unreserves are not under the administrative charge of the District Forest Officer, the extraction, from them, of sandalwood, tanning barks and gallnuts throughout the division, of nux-vomica in the Krishnagiri range and of bamboos and all minor products on the Javadi, Tenmalai and Yelagiri hills is carried out by the forest department. The amounts derived from sales, by the revenue department, of other forest produce from the unreserves is incorporated in the divisional accounts.

26. *Panchayat reserves.*—Between 1923 and 1927, the following ten reserves, aggregating 20,573·80 acres, were handed over to panchayat management.

Reserves handed over to Panchayats.

Serial number and range.	Reserve.	Area in acres.	Date of handing over.
(1)	(2)	(3)	(4)
1 Alangayam	Vellakuttai	742·00	1923–24.
2 Do.	Vellakuttai Extension	469·00	1923–24.
3 Chengam	Damarakadu	6,133·80	1926–27.
4 Do.	Pinjur A, B and C	5,200·20	1925–26.
5 Do.	Munnurmangalam A and B	2,697·80	1926–27.
6 Do.	Melchengam	1,542·00	1925–26.
7 Krishnagiri	Varatanapalli	1,990·00	19th July 1927.
8 Do.	Varatanapalli Extension	42·00	Do.
9 Do.	Togarapalli	900·00	22nd February 1925.
10 Do.	Tattaikallu	857·00	7th July 1923.
	Total ..	20,573·80	

27. *Enclosures on the Javadis.*—In 1888 during the Forest Settlement of the Javadis in the North Arcot district, certain areas within the reserves were excluded from reservation and ordered to be retained as enclosures but were not then demarcated. In 1900 these enclosures were surveyed by the Revenue Survey Department and it was then found that the area actually cultivated was in excess of that originally set apart for enclosures.

28. In 1907 Government sanctioned the issue of 'ryotwari' pattas for all lands held under 'sivoijama', but not admitted at the original settlement. In the same year Government also ordered that such areas, together with sufficient margin for extension of cultivation and exercise of communal privileges, should be excluded from the reserves and disafforested. In 1911 in accordance with these directions 3,675·87 acres were disafforested on the Tenmalais.

29. *Land revenue administration of the hill villages on the Javadis and Yelagiris.*—Since 1917 land revenue administration in the hill villages of the Tiruppattur range has been controlled by the forest department. The main reasons for this deviation from the usual system of control by the revenue department were to enlist the co-operation of the 'malayalis' (local hill tribe) in the protection of the sandal bearing forests situated on the Javadi hills and remove the dual control which must exist to some extent as long as the revenue and forest departments work side by side in these tracts.

30. At a conference held on 19th June 1933 at Tiruppattur, at which the Collector, North Arcot, the Conservator of Forests, Salem Circle, and the District Forest Officers, Vellore East and West divisions, were present, it was decided that the land revenue administration by the forest department should be extended to the hill villages on the Tenmalais in the Chengam taluk and on the Yelagiris in the Tiruppattur taluk in the then current fasli (1933–34). The actual details relative to the proposed extension of the system were worked out and proposals submitted to Government who have ordered that the proposals should be renewed in 1936–37 as they are unable to sanction them at present.

31. *Legal position of Government with reference to sandal on patta lands.*—The legal position of Government with reference to sandal trees on patta lands falls under two heads, viz.,

(i) *Cases in which Government have no right to the sandal trees except such as may be acquired by purchase.*—These include lands assigned on patta,

(*a*) *On the Tiruppattur Javadis prior to 10th June 1907.*—In paragraph 8 of his working plan (1915) Mr. C. C. Wilson records " . . . All this sandalwood is the absolute property of Government with the exception of that situated in certain patta lands in the Tiruppattur range for which the pattas were granted prior to 1906, as before that date, the insertion of a clause in the pattas reserving the sandalwood to Government was omitted. This is due to the fact that in and about the year the settlement of a lot of land held on 'sivoijama' tenure was completed, the land being given to the holders without payment of any tree valuation; and the presence of sandal trees was ignored. . . ."

In June 1907, Government, in paragraph 4 of their Order No. 1462, Revenue, dated 10th June 1907, declared that all sandal trees wherever situated should be reserved to Government. Vide Appendix II (*a*).

(*b*) *On the Yelagiris prior to 11th April* 1918.—The Conservator of Forests, the then Southern Circle in paragraph 2 of his R.O.C. No. 1373/17, dated 20th February 1918, records " . . . the Board have in paragraph 4 of its reference No. 2571-16/17, dated 13th December 1917, stated that the department can lay no claim to sandalwood on patta lands . . . " In 1918 the Board of Revenue in their Proceedings, Forest No. 134, Miscellaneous, dated 11th April 1918, ordered that all sandal trees wherever growing should be reserved to Government. Vide Appendix II (*b*).

(ii) *Cases in which all sandal trees are the absolute property of Government.*—These include lands assigned on patta,

(*a*) *On the Tiruppattur Javadis subsequent to June* 1907.—Vide G.O. No. 1462, Revenue, dated 10th June 1907, Appendix II (*a*).

(*b*) *On the Yelagiris subsequent to February* 1918.—Vide Board's Proceedings, Forest No. 134, Miscellaneous, dated 11th April 1918, Appendix II (*b*).

(*c*) *Throughout the Tenmalais (Chengam Javadis).*—No pattas were issued prior to May 1911 and in 1911 Government, in their Order No. 1479, Revenue, dated 20th May 1911, declared that all sandal trees should be reserved to Government. Vide Appendix II (*c*).

SECTION 9.—RIGHTS AND CONCESSIONS.

32. *Granted at settlement.*—The various rights and concessions, communal and public, admitted at the time of settlement are recorded in the Section 16 notifications relative to each reserve. The numbers and dates of these notifications are given in columns (4) and (5) of the list of reserves in paragraph 24 above.

33. *Granted subsequent to settlement, concessions under the 'Forest Village System'.*—Sanction for the introduction of the 'Forest Village System' in the hill villages on the Javadis in the Tiruppattur range, the Tenmalais of the Chengam range and the Yelagiris in the Alangayam range was conveyed in G.O. No. 2687, dated 3rd December 1915, and further elaborated in Board's Proceedings No. 15, Miscellaneous, dated 10th January 1917. Under this system the hill reserves, where numerous 'malayali' villages are scattered about as enclosures, are divided into grazing blocks. Each village, or group of villages, is given a grazing block and is responsible for its protection from thefts, for keeping sandal trees free of cover and climbers and for supplying labour (on payment) for any special works undertaken by the department. In return the department grants the concession of refunding annually to the 'malayalis' the full amount of grazing fees paid by them if protection and co-operation are found good in their respective grazing blocks. The grazing fees, at three annas per cow unit, are fixed on the basis of a triennial census of cattle taken in each village. No possibility is fixed. Refunds are proportionately reduced, or entirely withheld according as protection and co-operation have been fair or bad. The 'malayalis' are given further concession of free removal of unclassified timber, fuel, bamboos and thatch grass for agricultural and domestic purposes.

34. In paragraph 17 of the last working plan (1924) Mr. D. L. Sathe records " . . . The system is almost a failure on the Yelagiris and the Tiruppattur Javadis due to (1) outside teaching, (2) the well-to-do condition of the malayalis, (3) existence of large tracts of unreserves but mainly due to (4) the malayali character. . . ."

Since then all the eleven hill villages on the Yelagiris, Alangayam range and forty-six of the fifty-one villages on the Tiruppattur Javadis have withdrawn from the system. Subsequently, however, Kottayur village on the Yelagiris was re-admitted (Chief Conservator's Reference No. 3187-37/C-1, dated 30th April 1937), while other villages on the Javadis have expressed a desire to return. A list of villages still under the system is given in Appendix V.

35. *Land leases.*—There are four temporary leases of land for dry cultivation in the Nallapattu reserve of the Chengam range. Details relating to each are given in the statement below. In each case agreements have been drawn up in accordance with instructions contained in Section 163 of the Forest Code. The leases are renewable annually and may be terminated at the discretion of the District Forest Officer.

List of temporary leases.

Serial number and name of lessee.	Area leased in acres.	Assessment.		
		RS.	A.	P.
(1)	(2)	(3)		
1 Koneri Kavandan, son of Raman, Paderi village, Chengam range	7·43	4	10	4
2 Thathan, son of Timpathi, Nachamalai, Chengam range	11·44	7	2	2
3 Kuppan Perumal, son of Kuppan, Ondikuriyanoor	11·81	7	5	6
4 Chinnathambi Kavandan, son of Kali Kavandan, Pulichikottai, Chengam range.	15·90	9	5	8

CHAPTER II.—THE FOREST.

SECTION 1.—COMPOSITION AND CONDITION OF THE CROP.

36. *General.*—The forests are of the mixed deciduous type, irregular and very variable in density. The hill forests on the Javadis and Yelagiris and the forests in the plains including the isolated reserves of the Krishnagiri range, are briefly described in the following paragraphs.

The Hill Forests.

37. *Constitution.*—The Hill forests on the Javadis and Yelagiris are the most valuable part of the division as they constitute practically the whole of the sandal and bamboo working circles. Actuals taken over a period of four years, 1932–33 to 1935–36, show that sandal and bamboos contribute 35 and 19 per cent respectively towards the average annual revenue of the division.

38. *Sandal* grows in patches, the area of which may vary from a fraction of an acre up to several hundred acres. The patches are scattered throughout the forest and it is often very difficult to account for the total absence of the species from certain parts which appear to be similar in every respect to neighbouring areas where it is growing luxuriantly. Possibly it may have been distributed evenly in the past, and destroyed by fire or by the wholesale removal of hosts. Natural regeneration is good and the species, having light demanding tendencies, occurs plentifully in abandoned cultivation, round enclosures and along paths and boundary lines. The fact that in areas once under cultivation, the soil has been worked up and exposed to the action of weather and to the visits of birds, which feed on sandal fruit, probably also accounts for such areas being well stocked.

39. *Bamboo.*—Two species, *Dendrocalamus strictus* and *Bambusa arundinacea*, occur, the former growing mostly on slopes above about 1,500 feet, while the latter is confined to the plateau and bottoms of valleys down to about 800 feet. Both species are frequently found mixed over comparatively large areas on the plateau. In the valleys of the plateau *Bambusa arundinacea* grows to the almost total exclusion of *Dendrocalamus strictus*.

40. There is also a variety of *Bambusa arundinacea*, locally known as 'Iruvarai', which is less thorny than the ordinary large bamboo, the clumps less congested and the culms thicker walled. In fact it is sometimes mistaken for *Dendrocalamus strictus*. An effort was made to identify the variety, but this could not be done as flowers are not available.

41. *Dendrocalamus* grows ordinarily to a girth of about 8 inches at the base, while *Bambusa arundinacea* attains, in places, a corresponding girth of about 18 inches. Where conditions are favourable, *Dendrocalamus strictus* grows almost solid and the culms are used as lance staves for the Indian cavalry and as lathis for the police force.

42. Mention should here be made of a most deplorable state of affairs brought about by over-cutting *Dendrocalamus strictus* around enclosures, hacking for fodder in accessible localities and the removal of tender culms for basket making. Extensive areas now contain dead and dying clumps, the vast majority of which have been hacked at a height of 8 to 10 feet from the ground. *Bambusa arundinacea*, though less susceptible to damage, has also been badly overworked and culms cut at anything from 5 to 15 feet from the ground. This subject is further dealt with in Chapter V below.

43. *Bamboo-sandal mixture.*—The largest sandal trees in the division are often found in bamboo (*Bambusa arundinacea*) forest and it is probable that many of the large sandal trees date back beyond the life of the bamboo crop and that when the present clumps were mere bushes, the sandal was already very tall. The bamboo while serving as an admirable host to sandal is also, when it flowers and dies, a very grave danger in the fire season, necessitating special measures for protection.

44. *Flowering and dying of bamboo.*—In paragraph 4 of his working plan for the bamboo forests of the old South Vellore division, Mr. K. R. Venkataramana Ayyar, in 1919, records that a gregarious flowering of *Bambusa arundinacea* appears to have taken place in about the years 1895 to 1897, while *Dendrocalamus strictus* similarly flowered and died in 1900. Previous flowering of *Dendrocalamus strictus*, possibly sporadic, in about 1878 is also recorded, but no details of this are known. At the time of writing this plan flowering is again in progress, gregariously in the case of *Bambusa arundinacea* and sporadically in the case of *Dendrocalamus strictus*. The most active flowering centres are about half a mile east of the Puliyur enclosure in the Tenmalai reserve and immediately north and south of Kalanur village in Mambakkam reserve.

45. It must however be observed that the earliest record of *Dendrocalamus* flowering in 1878 does not appear to be correct for a period of twenty-two years lapsed between it and the next flowering in 1900, while the interval between the commencement of the latter flowering and the beginning of that now in progress is 36 years.

46. *Other species.*—The growth of other species varies with the conditions of the locality. A few isolated trees of teak, rosewood, *Pterocarpus marsupium* and *Terminalia tomentosa* are to be found, but these are stunted and ill-grown. Except for sandal and bamboo the crop is generally unsaleable and therefore valuable only as hosts for sandal and as a soil cover. Too much emphasis cannot however be placed on its value as a soil cover and an important factor in flood control and prevention of soil erosion.

47. *Undergrowth.*—The undergrowth is for the most part of the persistent thorny type in which *Solanum indicum, Pterolobium indicum, Carissa carandas* and *Euphorbia* species predominate. Occasional patches of grass are seen and generally indicate a shallow and impoverished soil. As one would expect, creepers and climbers are not predominant, although they do sometimes arrest one's attention when they grow into and weigh down the crowns of healthy young sandal trees. This usually occurs on the outskirts of enclosures and abandoned cultivation where light conditions are favourable. The most common climber is *Acacia intsia*.

48. *Lantana* covers about 6,400 acres and is confined to the following localities :—

(i) On the western slopes of the Yelagiris in the Jalarpet and Nagaluthu reserves (Alangayam range) west of Kottaiyur and Pungulam villages and north and south of Kottur, about 800 acres.

(ii) In the Pungulam reserve (Alangayam range) north of the Kambugudi road, about 1,800 acres.

(iii) Scattered patches along the western boundary of the Mambakkam reserve (Tiruppattur range), about 600 acres.

(iv) In the Palamarathur, Tenmalai and Nallapattu reserves (Chengam range) east, south and west of the Palamarathur—Kannalamandai-Kutathur enclosure, about 3,200 acres.

49. The densest growth is on the western slopes of the Yelagiris, where the *lantana* area coincides with the sandal forest where spike occurs in epidemic form.

Plains Forests.

50. *Constitution.*—These forests are composed of an irregularly stocked low scrub of poor density, often degenerating into sparse bushes with occasional ill-shapen and stunted trees. Easy accessibility, and consequent illicit felling and overgrazing, coupled with less favourable conditions of temperature and rainfall are the chief factors by which this degraded state has been brought about. The poorest areas are to be found in the Kalarapatti and Narasingapuram reserves, immediately south of the Alangayam-Vaniyambadi road, on the western slopes of the Tiruppattur Javadis and in the Ponnaiyar reserves in the south of the division.

51. The following species are well represented, though the trees are often poor specimens. Girths exceeding 36 inches are seldom found.

Chloroxylon swietenia.
Albizzia amara.
Albizzia lebbek.
Acacia sundra.
Hardwickia binata.
Anogeissus latifolia.
Steriospermum suaveolens.
Cleistantus collinus.
Azadirachta indica.
Diospyros spp.
Strychnos nuxvomica.
Strychnos potatorum.
Exythroxylon monogynum.

52. *Sandal* is found scattered in places and seems to have been introduced artificially by occasional distribution of seed by forest guards during the course of patrolling. It is

often found along foot paths, road margins, reserve boundaries, etc. In many cases specimens are small and unhealthy looking and it is doubtful if they will ever grow large enough to produce heartwood. On the banks of streams and where host conditions are more favourable, the sandal, where it occurs, is healthy and shows signs of spreading.

53. *Teak, Pterocarpus marsupium* and *rosewood* are rare, stunted and gnarled, due not only to unfavourable conditions, but also to repeated illicit cuttings.

54. *Tamarind* is very common and is usually the best tree in the forest. In the dry season it retains its foliage longer than the other species. Usually, it is not felled as fuel, as it is more valuable for its fruit, an important minor forest product. There is little doubt that the species is particularly suitable to this dry, degraded type of forest.

55. *Bamboo.—Dendrocalamus strictus* is absent. *Bambusa arundinacea* is found near the outer slopes of the hills in the vicinity of streams and water courses; but nowhere in the plains does it approach the vigour with which it grows in the hill forests.

56. *Prickly-pear* (*Opuntia dillenii*) used to be common in the plains forests, and troublesome, but never to a degree sufficient to cause alarm. However, consistant with the then general policy of Government for its complete eradication throughout the Presidency, the cochineal insect was introduced in 1931, with the result that places where prickly-pear was the only soil cover are now completely denuded.

57. *Lantana* occurs gregariously over about 2,200 acres in the Govindapuram and Singarapet-extension reserves at the foot of the hills, west of the Nellivasal enclosure on the Tiruppattur Javadis. Elsewhere occasional bushes are seen, but the species shown no signs of spreading.

58. *The isolated reserves of the Krishnagiri range.*—The low hills, rising some 1,200 or 1,300 feet above the surrounding country, on which these reserves occur, are merely gigantic heaps of boulders of all sizes interspersed with shallow stoney soil. *Albizzia amara* is the predominant species, but the trees are stunted and much branched. The density of the crop is poor throughout and undergrowth, where it occurs, is of the thorny type.

59. *Botanical list.*—A botanical list of trees, shrubs and climbers found in both the hill and plains forests is given in Appendix III.

SECTION 2.—INJURIES TO WHICH THE CROP IS LIABLE.

60. *General.*—By far the most serious damage to the crop is caused wilfully by man. The plains forests are easily accessible from the surrounding villages, while those on the hills are interspersed by numerous enclosures. Offences are of daily occurrence, although the vast majority of them pass undetected. Making due allowance for this, the following statement of detected cases will perhaps give some idea of the extent of the damage for which man is responsible. The figures represent annual averages for a period of ten years, 1926–27 to 1935–36.

Nature of offence.	Alangayam range.	Tiruppattur range.	Chengam range.	Krishnagiri range.	Division.
(1)	(2)	(3)	(4)	(5)	(6)
Injury to forest by fire	0·1	0·1	Nil.	0·7	0·9
Unauthorized felling and removal of forest produce.	176·5	131·6	108·5	63·6	480·2
Illicit grazing	46·2	35·4	15·1	22·1	118·8
Other offences	1·4	4·1	2·7	7·1	15·3
Total ..	**224·2**	**171·2**	**126·3**	**93·5**	**615·2**

61. *Fire.*—Fires do an immense amount of harm to the forest, both directly by destroying growth, especially the scanty and much wanted natural regeneration, and indirectly by stimulating the growth of grasses and undesirable weeds, the commonest of which is *Pterolobium indicum*. Fires are particularly destructive to sandal, which is very sensitive to fire. The bark as well as the cambium of even larger sandal trees is often completely destroyed on the fire side and regeneration in burnt areas is absolutely wiped out.

62. *Theft.*—Theft of small timber for agricultural implements and for building huts is the commonest form of offence. As generally only valuable species are removed the forest is gradually becoming depleted of such species. Apart from the actual loss of material, the manner in which the removals are effected does a considerable amount of harm. Trees and saplings are felled three to four feet from the ground and are thereby not given a chance of reproducing themselves by coppice shoots. Species which suffer most are *Chloroxylon swietenia, Acacia sundra, Acacia leucophloea* and *Albizzia lebbek*.

63. *Illicit felling of sandal* for the purpose of selling the heartwood is rare. The opening up of the forest and the operation of the sandalwood transit rules are the principal factors which have almost brought about the disappearance of theft of this sort.

64. *Theft of firewood.*—Firewood is extensively stolen, but such removals are usually confined to dead material. Bamboos are sometimes removed, but a much more serious form of damage is the lopping of *Dendrocalamus strictus* for cattle fodder. This brings us to the next form of damage, viz., lopping and hacking.

65. *Lopping and hacking.*—*Dendrocalamus strictus* is more frequently damaged in this way than is *Bambusa arundinacea.* Brief reference has already been made in paragraph 42 above to the present general degraded state of the bamboo areas. Mr. C. C. Wilson, Conservator of Forests, who prepared the present sandalwood working plan for the Javadi and Yelagiri hills in 1916, is of opinion that the stock of *Dendrocalamus strictus* has " definitely and gravely " deteriorated since that date. The two chief factors which have brought about this deterioration are the lopping of culms for cattle fodder and cutting the top ends for " valichals " (one year old splits used for basket making) and " afinis " (inner soft pliable splits used as fibre for tying).

66. Occasional lopping of sandal is met with. Fortunately this form of evil seems to have decreased very considerably in recent years. In paragraph 11 (*c*) of his working plan referred to in the foregoing paragraph, Mr. C. C. Wilson records " .... and it is their (Malayali) herdsmen who lop the branches of, and even fell large sandal trees to provide fodder for cattle and goats. ...." In an area of 301 acres in the Puliyur unreserve, Mr. Wilson counted 216 sandal trees which were illicitly felled for this purpose. The disappearance of this form of damage is due to the special protection which sandal enjoys under the " Forest Village System," introduced in 1917. (Vide paragraph 33 above). The change however has its repercussion, for the " Malayali," while leaving sandal alone, has concentrated his efforts on the wholesale lopping of *Dendrocalamus strictus*.

67. *Bark stripping.*—Sandal trees are sometimes barked for the purpose of chewing. In paragraph 11 (*c*) of his working plan, Mr. C. C. Wilson further records, " .... every path on the hills is lined by decrepit half flayed sandal trees in a more or less dying condition. .... " Although this form of damage is not nearly as bad as it was, it is still in evidence and is now probably due more to the mischief of cattle boys than to the removal of bark for eating.

68. Other species are often found stripped of their bark for the extraction of fibre, the most striking instance being *Hardwickia binata*.

69. *Animals.*—The damage caused by wild animals is negligible.

70. *Grazing.*—The damage done by cattle is twofold, viz., (i) browsing down and trampling on tender seedlings, particularly sandal and (ii) hardening the surface soil by their continual tread and thereby rendering it unsuitable for the reception of seed.

71. The incidence of grazing is dangerously high, specially in the neighbourhood of villages. The average incidence, based on the actuals for the ten year period 1926–27 to 1935–36, varies from 3·2 acres per " cow-unit " in the Alangayam range to 5·1 acres in Tiruppattur. Details relating to each range are given in Appendix IV. It must however be remembered that many areas are not grazed, especially in the more accessible parts, and therefore the rest of the area carried a much heavier incidence than that indicated by the averages.

72. *Climatic.*—Directly, wind is not generally responsible for any serious damage. Indirectly, the damage due to wind is considerable, for the east wind which blows throughout the fire season is an important factor in causing the spread of fire and often renders control impossible.

73. *Injurious plants.*—Among these may be mentioned lantana, grass, *Pterolobium indicum* and creepers and climbers generally. Lantana and grass are indirectly important on account of the risk from fire in areas where they grow. *Pterolobium indicum* forms dense thickets and prevents the germination of seeds of other species. It may perhaps, because of its evergreen nature, have the advantage of acting as a fire break, but this advantage could never be of any value in areas where the species has established itself to the complete exclusion of everything else.

74. Creepers and climbers are not a serious factor. They occur, but do not grow to any size. *Acacia intsia* is the commonest, and is occasionally found growing into and weighing down the crowns of sandal trees.

75. *Spike disease in sandal.*—Spike was first observed in the division on the Tiruppattur Javadis, near Nollivasal, in June 1917. The infected area was 11 acres in extent and contained 65 spiked trees. To check the spread of the disease all sandal trees, whether infected or not, and all *Zizyphus cenoplia, Dodonea viscosa, Scutia indica* and *Cipadessa fruiticosa*, then believed to be susceptible to the disease and therefore contributory to its

further spread, were removed in the area and in a belt one furlong wide all round. The disease remained quiescent till June 1919, after which the following fresh attacks were recorded :—

1919–20	.. ..	33 trees.
1920–21	.. ..	1 tree.
1921–22	.. ..	2 trees.
1922–23	.. ..	10 "
1924–25	.. ..	20 "

The infected trees were promptly removed and no recrudescence was observed until August 1935, when it was found that 240 acres near Thagarakuppam, in the Inner Javadi reserve, were infected, and that the disease was present in epidemic form. A detailed enumeration revealed that 600 trees were spiked. The theory has been advanced that the disease started in the adjoining Thagarakuppam enclosure and that it first appeared after extraction had been carried out in about October 1933.

76. On the Yelagiris spike was first noticed in 1926, but no measures were taken to prevent its spread. The result is, that, of an area of 5,151 acres of sandal bearing forest, 2,367 acres are very badly infected.

77. In some of the poorer sandal areas on the Javadis, sandal assumes, at the beginning of the growing season, an appearance not altogether unlike spike. The size of the newly formed leaves is considerably reduced and the distance between the insertions of the alternate pairs is greatly decreased. The tree will also have shed most of its leaves of the previous season. The spike like appearance of the terminal branches, with small new leaves clustered together, is very striking. Two such specimens were marked by the writer and carefully watched. As the growing season progressed, and more leaves were added to the crown, the trees no longer looked suspicious but took on their normal graceful appearance.

CHAPTER III.—UTILIZATION OF THE PRODUCE.

SECTION 1.—AGRICULTURAL WANTS AND CUSTOMS OF THE PEOPLE.

78. *The population.*—The population of the neighbouring plains villages need not be described. The inhabitants of the hill tracts are a hybrid race, known as "Malayalis," and are said to have descended from the Vedars, Vellalas and Goundars. Their persuits are purely agricultural.

79. *Wants of the population.*—The main requirements of the population are fuel, small timber for agricultural implements and building purposes, bamboos, green leaf manure, thatch, fodder and broom grass and grazing.

80. *Fuel and small timber.*—In the Krishnagiri and Chengam ranges the fuel and small timber requirements of the plains villages are met largely from panchayat reserves. Private holdings, annual clearing of newly assigned pattas and sivoijama lands and illicit removals are also sources of supply throughout the division. The bulk of the produce felled annually in the several fuel coupes is carted to the towns to meet a large demand. The inhabitants of those hill villages still under the "Forest Village System" (vide Appendix V) enjoy the concession of free removal of fuel, unclassified timber, bamboos and thatch grass for agricultural and domestic purposes in return for protection from theft and fire, tending sandal and supplying labour for any special work undertaken by the department.

81. The species most commonly used for ploughs are *Chloroxylon swietenia* and *Acacia leucophloea* for the share, *Acacia sundra* and *Grewia tiliaefolia* (when available) for the shaft, while almost any species is used for the handle. Occasionally shares are made of *Anogeissus latifolia*, but only when better species are not available.

82. *Bamboo.*—The requirements of the plains villagers are met by purchase in the local markets or by theft. The latter source is not considerable as the growth of bamboo in the plains forests is very limited. As in the case of fuel and small timber, certain villages on the hills are allowed free removal of bamboos for bona fide domestic purposes.

83. *Green leaf manure.*—Demand for green leaf manure is confined to the Chengam and Tiruppattur taluks, in the extreme south of the division and on either side of the Tiruppattur-Krishnagiri road respectively. In the former case an adequate supply is available from panchayat reserves while in the latter case mitta forests and unreserves serve all villages except those situated near Agraharam and Puram. These villages obtain their requirements by illicit removals from the eastern and southern portions of the Nandibanda and Kottur reserves of the Krishnagiri range.

84. *Thatch, fodder and broom grass.*—Free removal of thatch, fodder and broom grass by villages adjoining reserves is permitted in accordance with the recommendations of the Royal Commission on Agriculture, 1929. The conditions governing these removals are dealt with in section 4 below " Methods of exploitation and their cost."

85. *Grazing.*—The ryots keep large herds of cattle chiefly for the sake of the manure they yield. The average number of cattle, reduced to " cow " units, grazed annually for the last ten years is 46,502. Grazing is thus the most important demand of the people.

SECTION 2.—MARKETS AND MARKETABLE PRODUCTS.

86. *Marketable products* consist of sandalwood, bamboos, fuel, charcoal and minor forest produce. There is practically no marketable timber in the division. The very limited quantity of small timber which is produced in fuel coupes from time to time goes towards satisfying the requirements of the neighbouring villages for agricultural implements, posts, etc., for hut building. The classification of sandalwood, bamboos and minor forest produce is dealt with in the three following paragraphs.

87. *Sandalwood.*—The classification of finally cleaned stemwood, rootwood and chips is laid down in paragraph 39 of " Rules regarding selection, felling, cleaning, classification and disposal of sandalwood and the method of maintaining depot accounts and other registers' revised edition, 1930, hereinafter referred to as the sandalwood extraction rules.

88. *Bamboos.*—All bamboos are classified by merchants before sale. The statement below gives the local names of the various classes, a brief description of each and the uses to which it is put. The information contained in the statement has been collected partly from paragraph 7 of Mr. K. R. Venkataramana Ayyar's working plan for bamboos and minor forest produce in the South Vellore Division (1920), and partly from enquiry in the loca. markets. The costs of collection should really appear in Section 4, methods of exploitation and their cost, but they are given here so as to avoid repetition of the classification when that section is dealt with.

Classification of bamboos.

Kind of bamboo. (1)	Serial number. (2)	Local name. (3)	Brief description. (4)	Uses. (5)	Cost of collection (ex-forest depots). (6)
Bambusa arundinacea—extracted green.	1	Doola varai (தூலவாரை) ..	Mature bamboos above three years old cut usually above 2 nodes from the base, 12 to 24 feet long and 10″ to 13″ girth.	Scaffolding, pandals, wall plates and ridge pieces.	Two to four annas each.
	2	Katta varai (கட்டவாரை)	Mature bamboos more solid than (1) cut above 2 nodes from the base, 6 to 8 feet long and 9″ to 12″ girth.	Pillars, bressummers and ridge poles ..	Half anna each.
	3	Dera varai (டேராவாரை)	Thick walled, 10 to 15 feet long and 8″ to 10″ girth at the base.	Tent posts and ridges	One anna each.
	4	Yennikkal (எணிக்கால்)	Same as (3) but only 6″ to 7″ girth	Ladders	Half anna each.
	5	Dokku varai (டொக்குவாரை) or Uthavu (உதவு) or Konai varai (கொனைவாரை) or Monai-kolundu (மொனைக்கொளுந்து).	Portions of culms above (1) to (4), 10 to 15 feet long and about 7″ girth at the base and 2″ at tip.	Pandals, rafters for thatched houses and crown pieces for scaffolding.	Three annas per bundle of 10 pieces.
	6	Kitti baddai or Ani baddai (கிட்டி பத்தை அல்லது ஆணி பத்தை).	No. (2) split into two, three or four equal parts ..	Reepers for tiled houses, or cross pieces for frames of single bullock carts. If required for cross pieces of double bullock carts, these are obtained from (3) by splitting it into 2 halves.	Two annas per bundle of 20 splits.
	7	Tottil baddai (தொட்டில்பத்தை) ..	No. (2) split into two halves	Diagonal pieces connecting the shaft with the frame of double bullock carts.	Half anna per pair.
	8	Alagu baddai (அலகுபத்தை) ..	No. (2) split generally into four or five equal parts but only 4½ feet long.	By weavers	Three annas per bundle of 50 splits.
	9	Kathikkal (கட்டிக்கால்) or Karumbuthotta Gootam (கரும்புதோட்ட கூடம்).	Lower portions of bamboos which may be green or dry 7 to 9 feet long and 4″ to 6″ in girth with all but 2″ to 3″ length of branches from each node cut off.	Standards in sugarcane plantations ..	Rs. 2 per 100 pieces.
	10	Simbal (சிம்பல்)	Small top ends with branches intact	Fencing and screens.	Not usually sold.
Dendrocalamus strictus—extracted green.	1	Vittam (விட்டம்) Nathi (நாத்தி) Dandeethumungil (தண்டீத்து மூங்கில்).′	Solid or nearly solid bamboos, mature 12 to 15 feet long and 3″ to 3½″ girth at base where it is cut stantwise.	Cross pieces in betel leaf and sugarcane plantations; also for pandals. If split into two halves, used as tie rods for securing the thatch to the roof in thatched houses.	Three annas per bundle of 20 pieces.
	2	Veethi moongil or Urukkali (வீதி மூங்கில் அல்லது உருக்கழி).	Same as (1) but with the bottom cut square, 12 to 14 feet long and 3″ to 3½″ girth at the base.	Roof frames for thatched houses ..	Three annas per bundle.
	3	Valichal (வலிச்சல்) or Veda-baddai (வேதபத்தை).	Split bamboos usually obtained from culms less than one year old, cut from 1 to 2 feet above ground, length 12 feet.	Mats, baskets of sorts, screens and fibre for tying bamboos into bundles.	Four annas per bundle of 50 splits.
	4	Veda poothi (வேதபூட்டி) ..	Same as (3) but removed in whole bamboos the purchaser doing the splitting.	Do.	Half anna each bamboo.
	5	Korathabbai (கொரதப்பை) or Kora valichal (கொர வலிச்சல்)	Same as (3) but 15 feet long	Do.	Eight annas per bundle of 100 pieces.
	6	Alagu baddai (அலகுபத்தை) ..	Bottom portions, if fairly solid, of No. (1) or (2), split into two halves, 4½ feet long.	By weavers	Three annas per bundle of 50 pieces.

Classification of bamboos—cont.

Kind of bamboo. (1)	Serial number. (2)	Local name. (3)	Brief description. (4)	Uses. (5)	Cost of collection (ex-forest depots). (6)
Dendrocalamus strictus—extracted green—*cont.*	7	Banathadi or Kuthiraithadi (பாணத்தடி அல்லது குதிரைத் தடி.)	Mature solid bamboos 4 to 6 feet long and nearly uniformly 3″ to 5″ girth throughout.	Lathis and walking sticks. Longer ones are in demand for lance staves and tent Kanats.	Five annas per bundle of 10 pieces.
	8	Kaman or Kaman kuchi (கமான் அல்லது கமான் குச்சி).	About two years old bamboos, solid, about 10 feet long and 2″ girth at base and $1\frac{1}{2}$″ at top.	Tops of jutkas and country carts ..	Three annas per bundle of 30 pieces.
	9	Yethakol (எத்தக்கால்)	Mature, straight bamboos with their rhizomes seasoned over a fire in the forest before being transported to forest depots; about 2 feet long and 6″ to 7″ girth at the base.	Picottah poles	Three annas each.
	10	Banakkolayi (பாணக்குழாய்) ..	Hollow bamboos $4\frac{1}{2}$ feet long and 2″ to 3″ girth ..	Cut into smaller pieces about 4″ long and used for fire rockets.	Three annas per bundle of 25 pieces.
Dendrocalamus strictus—Naturally dry bamboos.	1	Kattikal or Goottam (கட்டைக்கால் அல்லது கூட்டம்).	Mature, solid or nearly solid bamboos, obtained from the bottom portion of culms 4 feet long and about 5″ to 6″ uniform girth.	Queen posts of roof trusses in thatched houses and also as up rights for the sides of country carts with tops.	Three annas per bundle of 20 pieces.
	2	Jantai or Karnai (ஜண்டை அல்லது கரணை).	Same as (1) but 6 feet long and 4″ to 5″ girth ..	Joints for mud terraces	Three annas per bundle of 24 pieces.
	3	Toluvam or Anjumolam Kalani (தொழுவம் அல்லது அஞ்சுமுழம் காலாணி).	Less solid than (1), 7 to 9 feet long, taken from the bottom portion of culms and 3″ to 4″ girth at base.	Reepers for tiled roof buildings	Do.
	4	Arumulam Kalani (ஆறுமுழம் காலாணி).	Same as (2) but 9 feet long	Used for the same as (1)	Do.
	5	Labbakkattu or Sippakkattu (லப்பக்கட்டு அல்லது சிப்பக்கட்டு).	Top ends of bamboos above (3), 6 feet long and 2″ to $2\frac{1}{2}$″ girth at the base.	Decking in ships carrying a cargo of groundnut.	One anna per bundle of 24 pieces.

89. *Minor forest produce.*—The chief minor forest produce and their uses are :—

Serial number and name.	Description and botanical name.	Use.
1 Avaram bark	*Cassia auriculata*	Tanning.
2 Konnai bark	*Cassia fistula*	Do.
3 Gallnuts	Fruits of *Terminalia chebula* ..	Do.
4 Pungam	Seed of *Pongamia glabra*	Yields an oil used for dressing leather after it is cured.
5 Sural bark	From the roots of *Ventilago calyculata* and *madraspatana*.	Yields a black dye.
6 Kapilapodi	Red powdery glands on the capsule of *Mallotus philippinensis*.	Yield a yellow dye.
7 Tagari	Seed of *Cassia tora*	A mordant used in dyeing.
8 Yettikottai	Seed of *Strychnos nuxvomica* ..	Yields strychnine.
9 Thettankottai	Seed of *Strychnos potatorum* ..	Used medicinally. Also an agent for clearing water.
10 Serankottai	Nuts of *Semicarpus anacardium* ..	Yields an oil used in the manufacture of marking ink and medicinally for external application.
11 Kattamanakku	Seed of *Jatropha curcas*	Yields an oil used medicinally for external application.
12 Nellikai	Fruit of *Phyllanthus emblica* ..	Used medicinally when dry and is edible when green.
13 Manipungam or soapnut ..	Fruit of *Sapindus trifoliatus* ..	Washing and toilet purposes.
14 Seakai or soapnut	Fruit of *Acacia concinna*	Do.
15 Tamarind	Fruit of *Tamarindus indica* ..	Edible.
16 Woodapple	Fruit of *Feronia elephantum*	Do.
17 Custardapple	Fruit of *Anona squamosa*	Do.
18 Elandai	Fruit of *Zizyphus jujuba*	Do.
19 Kalakkai	Fruit of *Carissa carandus*	Do.
20 Saraparuppu	Kernels of the fruit of *Buchanania latifolia*.	Do.
21 Mahali	Root of *Asparagus racemosus* ..	Do.
22 Kavudu grass	*Andropogon citratus*	Yields the lemon grass oil of commerce.
23 Honey and bees wax.		
24 Deer and sambur horns.		
25 Other miscellaneous products, such as gums, creepers and barks for fibre, etc.		

90. *Markets.*—Sandalwood is sold annually at Tiruppattur and is usually purchased by merchants from Bombay and Calicut. There is practically no local demand. The principal markets for bamboos, fuel and charcoal from the Alangayam, Tiruppattur and Chengam ranges are Tiruppattur, Vaniyambadi, Ambur and Tiruvannamalai. There are practically no sales at Alangayam and Chengam.

91. The export of bamboos to neighbouring districts, although dull at the time of writing, was common in the past, the chief outside markets being Cuddalore, Pondicherry, Bowringpet (for the Kolar gold fields), Madras and even Tanjore and Trichinopoly. It would appear that the groundnut trade has a direct bearing on the demand for bamboos in sea-port towns. When this trade is flourishing merchants require considerable quantities of bamboos annually for the erection of temporary godowns, cooly sheds and for rough decking for country boats carrying a cargo of the produce.

92. The greater portion of the charcoal produced in the fuel coupes of the Krishnagiri range is either railed to Tiruppattur and other markets on the Madras and Southern Mahratta Railway or transported by road for sale at Bangalore. The local demand is very limited.

93. The whole output of avaram and konnai barks, gallnuts and pungam seed is consumed by tanneries within the district. The more important tanneries are at Vaniambadi, Ambur, Vellore and Ranipet. Yettikottai is transported to Madras, whence it is shipped abroad. Soapnut, although it is not much used locally, finds a ready market in Telugu districts and is transported to Tenali, Guntur and Nellore. The small quantity of kapila poder which is collected annually is sold at Arni, Kumbakonam, Conjeeveram and Tiruvattapuram, which are all important weaving centres.

SECTION 3.—LINES OF EXPORT.

94. *Railways.*—The South Indian Railway enters the division some ten miles south of Tiruppattur and, running approximately nine miles from the western slopes of the Javadi hills and parallel to them, meets the Madras and Southern Mahratta Railway at Jalarpet. Thence the Madras and Southern Mahratta Railway runs in a north-easterly direction, through Vaniyambadi and leaves the division three miles north of it. A 2 feet 6 inches gauge branch line of the South Indian Railway connects Krishnagiri with Tiruppattur and is one of the chief outlets for the charcoal produced in the fuel coupes of the Krishnagiri range.

95. *Trunk roads.*—The Bangalore-Madras road, running more or less parallel to the railway lines from Krishnagiri to Tiruppattur and from Tiruppattur to Vaniyambadi, passes through Krishnagiri, Jalarpet, and Vaniyambadi. The Bangalore-Salem road runs southwards from Krishnagiri, while the Madras-Salem road after leaving Tiruppattur runs in a south-westerly direction to Dharmapuri.

96. *Other metalled roads.*—There are many other metalled roads in the division, radiating chiefly from Vaniyambadi, Tiruppattur and Krishnagiri. From the point of view of the extraction of forest produce the most important are :—

(i) The Alangayam-Tiruppattur road passing through Andiappanur.
(ii) The Alangayam-Vaniyambadi road.
(iii) The Singarapettai-Tiruppattur road.
(iv) The Singarapettai-Tiruvannamalai road passing through Chengam.
(v) The Maharajagadi-Krishnagiri road.

97. *Forest roads.*—The forests of the division are not as well provided with roads as are those of the neighbouring Vellore East division. There are only two main outlets for produce from the Javadis, viz. :—

(i) *Gillman road* running up the western slopes of the North Tiruppattur Javadis from Alangayam to Komittiyur in the Vellore East Division, and
(ii) *Andiappanur-Kambugudi road* running up the western slopes of the Central Tiruppattur Javadis.

SECTION 4.—METHODS OF EXPLOITATION AND THEIR COST.

98. *Sandalwood.*—Exploitation of sandalwood is carried out departmentally. The various stages of the operation are dealt with in the sandal extraction rules (Revised Edition, 1930). The average cost of exploitation for the division as a whole is as follows :—

	RS.	A.	P.	
(i) Marking and enumerating dead trees for extraction at half anna per acre. Data relating to a period of 12 years (the second and third felling cycles of the last working plan) show that there are 0·35 trees per acre and that the average yield of heartwood per tree is 1 qr. 1 lb. 15 oz. This stage of the operation thus costs	6	12	0	per ton.
(ii) Extraction, rough cleaning and transport to forest depots at 4 annas per qr.	20	0	0	,,
(iii) Reweighing rough cleaned wood at forest depots before despatch to the sale depot at Tiruppattur	0	8	0	,,
(iv) Transport by head-loads from forest depots to the nearest carting points at Re. 1–10–8 per ton per mile, based on an average lead of 4 miles	6	11	0	,,
(v) Transport by cart to the sale depot at Tiruppattur at Re. 0–6–8 per ton per mile, based on an average lead of 19 miles	7	15	0	,,
(vi) Reweighing at the sale depot at Tiruppattur	0	8	0	,,
(vii) Final cleaning and storage	10	0	0	,,
Total cost of exploitation ..	**52**	**6**	**0**	,,

99. As the length of leads from coupes to forest depots and thence to the sale depot at Tiruppattur varies from place to place, the cost of exploitation will necessarily vary in the different ranges. The average cost for each range is approximately :—

	RS.	A.	P.	
Alangayam	39	12	0	Per ton.
Tiruppattur	43	0	0	,,
Chengam	53	14	0	,,

100. *Bamboos.*—Coupes are worked through the agency of contractors. Blocks comprising one or more felling series, of three coupes each, are leased out once in three years, the lessee having the right to work only one coupe in each series annually. The costs of collection, ex forest depots, paid by contractors for the various kinds of bamboo are given in column 6 of the statement in paragraph 88 above.

101. *Fuel.*—Coupes are worked through the agency of contractors and are generally sold in February and March, the lease period running from 1st April to 31st March. Payments are made by contractors at the following rates :—

	RS.	A.	P.	
(i) Felling and loading on to carts	3	0	0	Per ton.
(ii) Carting from coupe to market per mile	0	5	0	,,

No billetting or stacking is done, the fuel being cut only into cartable sizes.

102. *Charcoal.*—There is no departmental working. Fuel coupe contractors manufacture charcoal in coupes from which either the whole or part of the crop is unsaleable as firewood because of poor demand, inaccessibility or remoteness from markets. The cost of production is as follows :—

(i) Cutting, burning, filling into bags and loading on carts, at annas per bag of 56 lb.	3	7	8	0	per ton.
(ii) Transport from coupe to market, per mile	0	5	0		,,

103. *Minor forest produce.*—The right of collecting minor forest produce is leased out once in five years in the case of konnai (*Cassia fistula*) bark and annually for other kinds of produce. The lease period commences on the 1st July each year and terminates on the 30th of the following June. Collection and delivery ex-forest depots, of the more important products is usually paid for at the following rates :—

(i) Tamarind	In return for collection coolies are given from 1/10 to 1/2 the quantity collected by them. Where trees are plentiful, or when the crop is good, collection is easy and coolies are given a smaller proportion. Conversely, where trees are scattered or when the crop is poor, collection is difficult and coolies receive a larger proportion. Removal of shells and cleaning is paid for at 1 anna per maund of 25 lbs.
(ii) Avaram bark (*Cassia auriculata*) .. (iii) Konnai (*Cassia fistula*) .. .. (iv) Sural roots only (*Ventilago calyculata and Ventilago madraspatana*).	2 pies per lb. or Re. 0–4–2 per maund of 25 lbs.
(v) Gallnuts (*Terminalia chebula*) ..	1 anna per measure or Re. 0–12–0 per maund of 25 lbs.
(vi) Yettikottai (*Strychnos nuxvomica*).	1 anna per measure or Re. 0–10–0 per maund of 25 lbs.
(vii) Tettankottai (*Strychnos potatorum*).	6 pies per measure or Re. 0–4–0 per maund of 25 lbs.
(viii) Pungam (*Pongamia glabra*) ..	8 pies per measure or Re. 0–6–8 per maund of 25 lbs.
(ix) Soapnut (*Sapindus trifoliatus*) ..	9 pies per measure or Re. 0–12–6 per maund of 25 lbs.
(x) Kapila powder (*Mallotus philippinensis*).	Per measure Re. 0–8–0.

104. The question of collecting tamarind departmentally was investigated by the working plans staff and from data collected it was considered that the present system of selling the right of collection annually, with that for other minor forest produce, is more profitable than departmental collection would be.

105. *Thatch, fodder and broom grass.*—In accordance with the recommendations of the Royal Commission on Agriculture, 1929, free removal of thatch, fodder and broom grass from the reserved forests by the inhabitants of adjoining villages, is permitted subject to the conditions noted below :—

(i) Removals should be for the bona fide domestic and agricultural use of the villages and not for sale.
(ii) The concession of free removal from any reserve applies only to the villages adjoining it and to no other.
(iii) Removals should be effected only in headloads.
(iv) The concession runs from the 1st September to the 28th February each year.
(v) Breach of any of the conditions will entail prosecution.
(vi) If fires occur or forest growth is damaged by felling, lopping or hacking, not only will the concessions be cancelled, but any portion or the whole of the reserves notified may be closed to grazing.

The names of reserves and a list of villages adjoining each is published in the District Gazette annually.

106. *Grazing.*—Grazing, subject to the usual conditions, is allowed in all reserves with the exception of the following areas :—

(i) Fuel coupes are closed to grazing in the year of felling and for five years after (vide paragraph 27 of Mr. D. L. Sathe's Working Plan—1925—for the Vellore West division).
(ii) All sandal specially protected blocks (vide paragraph 39 of Mr. C. C. Wilson's Sandalwood Working Plan—1916—for the Javadi and Yelagiri hills).

107. The grazing year is from 1st July to 30th June. Fees are collected at the following rates :—

LOCAL CATTLE.

Alangayam, Tiruppattur and Chengam ranges.

	RS.	A.	P.	
Cow or bull	0	8	0	per head.
Buffalo	1	0	0	,,
Sheep	0	4	0	,,

Krishnagiri range.

Cow or bull	0	8	0	per head.
Buffalo	0	12	0	,,
Sheep	0	3	0	,,

FOREIGN CATTLE.

Cow or bull	1	0	0	per head.
Buffalo	2	0	0	,,

Goat browsing is strictly prohibited. Pens are permitted with the previous approval of the District Forest Officer on payment of fees at Re. 1–0–0 per 100 head of cattle or part thereof.

108. The hill villages on the Javadis of the Tiruppattur range and on the Thenmalais of the Chengam range, which are still under the ' Forest Village system ' enjoy the concession of free grazing (paragraph 33 above), while those villages which have withdrawn from it (paragraph 34 above) are now grazing their cattle on payment of the usual fees.

SECTION 5.—PAST AND CURRENT PRICES.

109. *General.*—The following statements give the past and current prices obtained for sandalwood, bamboos, timber, fuel and minor forest produce :—

110. *Prices obtained for Sandalwood, 1923–24 to 1935–36*—

Classes.	Price per ton in rupees.												
	1923–24.	1924–25.	1925–26.	1926–27.	1927–28.	1928–29.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.	1934–35.	1935–36
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Billets.													
Vilayat Budh (I class). Chinna Budh (II class). Panjam (III class). Ghotla (Short billets).	Not obtained.												
Ghat Badala ..	1,169	1,466	1,344	1,474	1,531	1,724	1,567	900	1,100	1,100	1,029	869	845
Bagaradad ..	1,268	1,499	1,469	1,535	1,543	1,742	1,628	900	1,100	1,100	1,100	885	853
Jajpokal (I class).	1,146	1,455	1,328	1,402	1,477	1,608	1,571	Not sold.	775	900	894	783	755
Jajpokal (II class).	1,139	1,400	1,296	1,444	1,482	1,618	1,553	750	824	900	925	765	756
Ain Bazar ..	1,115	1,353	1,242	1,438	1,413	1,571	1,567	900	1,100	1,000	933	778	765
Cheria ..	815	1,205	1,205	1,330	1,375	1,540	1,500	850	900	900	901	745	730
Roots.													
I class ..	1,220	1,474	1,395	1,483	1,536	1,635	1,590	Not sold.	1,100	1,100	990	790	805
II class ..	1,268	1,505	1,395	1,484	1,514	1,644	1,601	Do.	1,100	1,100	1,070	803	838
III class ..	1,332	1,515	1,390	1,462	1,470	1,635	1,575	900	1,100	1,100	1,102	818	831
Chips.													
Ain Chilta ..	900	1,100	1,110	1,195	1,242	1,490	1,355	800	900	900	910	600	625
Hatheri Chilta.	..	..	..	..	..	..	..	..	..	..	..	..	..
Mulva Chilta ..	522	656	673	677	806	830	773	Not sold.	550	550	547	405	403
Basola Bakni.	520	660	458	632	789	980	836	434	550	450	494	324	321
Saw dust ..	700	840	1,050	1,152	1,130	1,200	1,200	955	1,000	1,000	850	805	660

111. *Statement showing prices obtained for bamboo coupes,* 1924–25 *to* 1935–36.

Felling series.	Year of felling.											
	1924–25.		1925–26.		1926–27.		1927–28.		1928–29.		1929–30.	
	Area of coupe in acres.	Price.	Area of coupe in acres.	Price.	Area of coupe in acres.	Price.	Area of coupe in acres.	Price.	Area of coupe in acres.	Price.	Area of coupe in acres.	Price.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
		RS.		RS.		RS.		RS.		RS.		RS.
					Alangayam range.							
Mangalam	1,884	250	2,595	250	1,601	251	1,884	250	2,595	250	1,601	283
Nagaluthu	2,157	250	2,550	250	1,858	284	2,157	283	2,550	283	1,858	325
Alangayam	2,692	760	3,696	700	5,202	667	2,692	666	3,696	666	5,102	600
Pungulam	2,414	675	2,899	675	3,890	834	2,414	833	2,899	833	3,890	833
Nayakanur	1,376	750	1,280	750	1,500	667	1,376	666	1,280	666	1,500	667
Mantharakuttai	966	650	1,220	650	1,040	567	966	567	1,220	567	1,040	608
Elagiri	1,360	150	1,390	150	1,560	184	1,360	182	1,390	183	1,560	183
Kavalur	1,140	188	1,196	188	1,302	150	1,140	150	1,196	150	..	..
					Tiruppattur range.							
Andiappanur	2,566	500	3,046	500	2,656	1,034	3,816	1,035	3,046	1,031	2,656	700
Mambakkam	3,146	550	3,050	550	4,636	777	3,146	777	3,050	776	4,636	833
Singarapettai	2,320	515	1,358	515	1,426	449	2,320	448	1,358	449	1,426	533
Puliyanur	856	775	1,396	775	1,163	617	856	617	1,396	617	1,163	700
Malai Tiruppattur	2,167	350	2,143	350	1,620	470	2,167	470	2,143	470	1,620	450
Nadukuppam	2,440	400	2,894	400	2,592	401	2,440	400	2,894	380	2,592	400
Thagarakuppam	2,937	450	2,875	450	2,840	437	2,937	437	2,875	437	2,840	450
Kambugudi	2,075	375	2,760	375	2,052	450	4,912	417	4,232	416	2,052	500
Puliyur	4,912	300	4,232	300	5,562	417	2,075	450	2,760	450	5,562	400
Puliyanur unreserves ..	..	..	..	..	..	..	..	..	..	..	..	..
					Chengam range.							
Palamarattur	1,802	750	1,198	750	2,075	767	1,802	767	2,075	767	1,198	767
Nallapattu (north) ..	866	378	909	378	739	333	866	333	909	333	739	417
Nallapattu (south) ..	695	400	985	400	728	333	695	333	985	333	728	317
Thenmalai (east)	1,430	250	1,252	250	1,504	258	1,430	197	1,252	207	1,504	233
Thenmalai (central) ..	944	150	1,301	150	1,520	197	944	258	1,301	236	1,520	233
Kuppanatham	785	300	734	300	674	667	788	667	734	666	674	542
Kallathur	1,482	400	1,816	400	1,060	519	1,482	519	1,816	508	1,060	475
Bandirevu	1,206	450	1,660	450	1,300	530	1,206	530	1,660	530	1,300	483

Felling series.	Year of felling—*cont.*											
	1930–31.		1931–32.		1932–33.		1933–34.		1934–35.		1935–36.	
	Area of coupe in acres.	Price.	Area of coupe in acres.	Price.	Area of coupe in acres.	Price.	Area of coupe in acres.	Price.	Area of coupe in acres.	Price.	Area of coupe in acres.	Price.
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
		RS.		RS.		RS.		RS.		RS.		RS.
					Alangayam range.							
Mangalam	1,884	283	2,595	283	1,601	360	1,884	280	2,595	210	1,601	283
Nagaluthu	2,157	325	2,550	325	1,858	375	2,157	300	2,550	225	1,858	180
Alangayam	2,692	600	3,696	600	5,202	690	2,692	520	3,696	390	5,202	433
Pungulam	2,414	833	2,899	833	3,890	2,720	2,414	2,160	2,899	1,620	3,890	1,317
Nayakanur	1,376	667	1,280	667	1,500	1,000	1,376	800	1,280	600	1,500	800
Mantharakuttai	966	608	1,220	608	1,040	750	966	600	1,220	450	1,040	1,250
Elagiri	1,360	183	1,390	183	1,560	250	1,360	200	1,390	150	1,560	142
Kavalur	..	Not sold.		..	..	..	..	..	Deleted from the working plans.			
					Tiruppattur range.							
Andiappanur	3,816	700	3,046	700	2,656	1,463	3,816	1,164	3,046	873	2,656	836
Mambakkam	3,146	833	3,650	833	4,636	1,088	3,146	864	3,050	648	4,636	683
Singarapettai	2,030	533	1,358	533	1,426	1,088	2,320	864	1,358	648	1,426	542
Puliyanur	856	700	1,396	700	1,163	2,044	856	1,632	1,396	1,224	1,163	837
Malai Tiruppattur ..	2,167	450	2,143	450	1,620	551	2,167	428	2,143	321	1,620	367
Nadukuppam	2,440	400	2,894	400	2,592	463	2,440	364	2,894	273	1,620	333
Thagarakuppam	2,937	450	2,875	450	2,840	551	2,937	428	2,875	321	2,840	405
Kambugudi	2,075	500	2,760	500	2,052	2,088	2,075	1,664	2,760	1,248	2,052	1,000
Puliyur	..	..	4,232	400	5,562	465	4,912	364	4,232	273	5,562	258
Puliyanur unreserves ..	4,912	400	..	..	..	..	..	..	..	..	..	..
					Chengam range.							
Palamarathur	1,802	767	2,075	767	1,198	1,088	1,802	864	2,075	648	1,198	867
Nallapattu (north) ..	866	417	909	417	739	544	866	432	909	324	739	617
Nallapattu (south) ..	695	317	985	317	728	397	695	316	985	237	728	767
Thenmalai (east)	1,430	230	1,252	233	1,504	272	1,430	216	1,252	162	1,524	183
Thenmalai (central) ..	944	233	1,301	233	1,520	294	944	232	1,301	174	1,520	200
Kuppanatham	788	542	734	542	674	625	788	500	734	375	674	420
Kallathur	1,482	475	1,816	475	1,060	588	1,428	464	1,816	348	1,060	400
Bandirevu	1,206	450	1,660	450	1,300	625	1,206	500	1,660	375	1,300	425

112. *Statement showing prices of timber extracted from improvement felling coupes, 1924–25 to 1935–36.*

Year of felling.	Mungulam. Coupe number.	Area in acres.	Number of trees marked.	Price realized per Acre.	Price realized per Tree.	Amount.	Kottur. Coupe number.	Area in acres.	Number of trees marked.	Price realized per Acre.	Price realized per Tree.	Amount.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
				RS. A. P.	RS. A. P.	RS. A. P.				RS. A. P.	RS. A. P.	RS. A. P.
1924–25 ..	No demand.						No demand.					
1925–26 ..	No demand.						No demand.					
1926–27 ..	No demand.						No demand.					
1927–28 ..	I	50·0	*	10 0 0	..	500 0 0	No demand.					
	II	33·5	*	7 8 4	..	251 14 0						
1928–29 ..	No demand.						II	*	1,021	..	0 2 10	182 12 0
1929–30 ..	No demand.		..	..	..	..	III	*	650	..	0 8 0	325 0 0
1930–31 ..	III	41·0	1,007	5 0 0	..	205 0 0	IV	37·0	899	..	0 4 6	252 13 6
1931–32 ..	IV	32·0	817	3 10 0	..	116 0 0	V	20·0	679	..	0 4 6	190 15 6
1932–33 ..	III	(Arrears)	587	..	0 2 3	8 8 9	VI	23·0	722	..	0 8 0	361 0 0
	V	55·0	*	3 6 0	..	185 10 0	..	..	..	..	..	..
1933–34 ..	VI	37·0	595	..	0 3 6	130 2 6	VII	40·0	486	..	0 3 6	106 5 0
1934–35 ..	V	(Arrears).	89	..	0 2 0	11 2 0	No demand.					
	VI	(Arrears).	101	..	0 1 0	6 5 0						
	VII	47·0	610	..	0 2 3	85 12 6						
1935–36 ..	VIII	..	322	..	0 3 0	60 6 0						
	VI	(Arrears).	101	..	0 2 3	14 3 3						
Total, gross revenue for periods 1924–25 to 1935–36				..	..	**1,649 0 0**	..	..	..	..	..	**1,418 14 0**
Average annual gross revenue 1935–36			..	..	..	**137 6 8**	..	..	..	..	..	**118 3 10**

* Information not forthcoming.

113. *Statement showing prices obtained for fuel and small timber, 1924–25 to 1935–36.*

Felling series.	1924–25. Area sold in acres.	1924–25. Price per acre.	1925–26. Area sold in acres.	1925–26. Price per acre.	1926–27. Area sold in acres.	1926–27. Price per acre.	1927–28. Area sold in acres.	1927–28. Price per acre.	1928–29. Area sold in acres.	1928–29. Price per acre.	1929–30. Area sold in acres.	1929–30. Price per acre.
	Year of felling.											
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
		RS. A.		RS. A.		RS. A.		RS. A.		RS. A.		RS. A.
Alangayam range.												
Alangayam	75	2 12	82	3 4	106	3 0	110	3 4	118	7 2	120	7 2
Badakuppam	..	..	110	2 4	97	1 12	99	1 2	73	3 0	94	4 0
Narasingapuram	112	2 0	174	3 8	242	3 8	126	3 1	..	..	104	4 0
Pungulam	..	..	96	3 4	94	7 5	95	3 2	..	..	171	5 10
Tiruppattur range.												
Chinnasamudram ..	..	..	28	2 4	23	2 5	23	2 0	29	5 0	21	4 8
Andiappanur	43	2 4	102	2 8	42	2 8	75	2 4	89	4 0	..	..
Govindapuram	42	2 0	40	2 4	42	5 0	50	7 0	28	7 0	..	..
Singarapettai	38	2 0	36	3 1	34	3 4	31	3 12	65	10 0	..	..
Chengam range.												
Anandavadi	128	3 12	120	2 6	139	2 8	128	4 9	..	..	56	5 4
Sorapanandal	26	3 0	24	1 8	..	..	46	1 11	32	2 0	34	3 5
Paramanandal	..	..	20	1 6	19	1 2	17	1 2	23	3 0	39	1 7
Mudanai	..	..	..	..	50	1 12	45	1 12	48	5 0	46	6 10
Krishnagiri range.												
Noralapalli	..	..	..	..	..	..	354	2 0	82	4 0	88	4 0
Maharajagadai (east and west).	..	..	..	..	..	..	..	..	598	0 14	..	..
Bargur	24	4 0	..	..	26	4 2	29	7 2	27	7 14	22	5 8
Nandibanda	42	2 8	65	2 4	50	5 5	22	6 5	28	6 0	45	4 4
Kottur	78	6 8	..	..	112	1 10	..	..	94	3 0	..	..

Statement showing prices obtained for fuel and small timber 1924–25 *to* 1935–36—cont.

Felling series.	Year of felling. 1930–31. Area sold in acres. (14)	1930–31. Price per acre. (15) RS. A.	1931–32. Area sold in acres. (16)	1931–32. Price per acre. (17) RS. A.	1932–33. Area sold in acres. (18)	1932–33. Price per acre. (19) RS. A.	1933–34. Area sold in acres. (20)	1933–34. Price per acre. (21) RS. A.	1934–35. Area sold in acres. (22)	1934–35. Price per acre. (23) RS. A.	1935–36. Area sold in acres. (24)	1935–36. Price per acre. (25) RS. A.
Alangayam range.												
Alangayam	76	5 4	123	3 2	196	4 12	61	6 0	145	2 8	49	4 10
Badakuppam	82	3 0	98	1 12	105	2 8	105	6 8	136	2 8	118	3 12
Narasingapuram	86	4 0	112	1 8	96	4 12	108	5 4	103	1 0	70	1 4
Pungulam	..	..	..	..	127	2 4	138	2 12	..	..	..	..
Tiruppattur range.												
Chinnasamudram ..	..	..	29	2 0	20	3 8	..	..	21	1 8	28	1 12
Andiappanur	..	..	..	..	..	..	..	..	..	..	..	..
Govindapuram	..	..	..	..	..	..	..	..	..	..	..	..
Singarapettai	..	..	99	2 12	..	..	36	1 12	33	2 4	..	..
Chengam range.												
Anandavadi	108	5 8	98	3 5	108	3 8	96	3 0	..	..	..	..
Sorappanandal	26	7 5	36	4 0	44	4 12	28	3 4	26	4 0	31	2 8
Paramanandal	..	..	..	..	20	1 12	..	..	26	3 4	..	..
Mudanai	48	6 0	52	3 8	66	6 8	..	..	..	..	..	..
Krishnagiri range.												
Noralapalli	90	10 8	95	6 0	..	..	34	5 5	42	6 0	54	2 8
Maharajagadai (east and west).	360	1 4	436	5 0	..	..	200	2 6	205	4 5	282	4 5
Bargur	21	3 2	24	4 8	19	5 0	19	3 4	29	3 4	31	2 8
Nandibanda	45	4 12	55	4 0	49	6 8	40	7 2	..	..	53	4 8
Kottur	..	..	199	1 13	111	1 10	..	..	90	1 4	98	1 2

114. *Statement showing prices obtained for minor forest produce*, 1930–31 *to* 1935–36.

Products. (For botanical names see paragraph 89.) (1)	Alangayam range. Price in rupees. 1930–31. (2)	1931–32. (3)	1932–33. (4)	1933–34. (5)	1934–35. (6)	1935–36. (7)	Tiruppattur range. Price in rupees. 1930–31. (8)	1931–32. (9)	1932–33. (10)	1933–34. (11)	1934–35. (12)	1935–36. (13)
Avaram bark	307	173	864	86	240	..	210	55	80	80	..	90
Surul bark	75	25	20	30	25	25	115	70	31	62	51	65
Konnai bark	..	..	..	..	..	..	..	..	..	675	..	..
Yettikottai	..	..	..	..	..	..	..	..	..	..	..	..
Gallnut	520	460	475	475	561	1,001	3,000	1,505	1,505	920	1,205	1,350
Other minor forest produce.	522	413	535	543	483	595	625	201	272	516	379	546

Products. (For botanical names see paragraph 89.)	Chengam range. Price in rupees. 1930–31. (14)	1931–32. (15)	1932–33. (16)	1933–34. (17)	1934–35. (18)	1935–36. (19)	Krishnagiri range. Price in rupees. 1930–31. (20)	1931–32. (21)	1932–33. (22)	1933–34. (23)	1934–35. (24)	1935–36. (25)
Avaram bark	147	250	..	..	280	70	420 }	150	100	110	110	70
Surul bark	30	16	10	25	37	31	.. }					
Konnai bark	..	..	..	..	..	..	..	45	..	..	..	..
Yettikottai	25	26	..	..	..	..	..	*	*	*	..	*
Gallnut	470	280	370	400	605	800 }	850	910	475	857	432	435
Other minor forest produce.	335	160	230	330	535	526 }						

* Sold with avaram and surul bark.

CHAPTER IV.—STAFF AND LABOUR SUPPLY.

115. *Staff, administrative, executive and protective.*—The administrative staff consists of one District Forest Officer, who is usually an Extra Assistant Conservator of Forests. Details of the executive and protective staff of the four ranges, as it stands at present, is given in the following statement :—

Range.	Permanent establishment.			Temporary establishment.	
	Rangers.	Foresters.	Forest guards.	Reserve watchers.	Bungalow watchers.
(1)	(2)	(3)	(4)	(5)	(6)
Alangayam	1	3	9	8	3
Tiruppattur	1	6	14	14	5
Chengam	1	4	11	11	3
Krishnagiri	1	..	6	6	1
Total ..	4	13	40	39	12

In addition to the above there are 1 ranger, 1 forester and 2 watchers for the sandal-wood depot at Tiruppattur. The depot was constituted a separate unit in October 1933 (G.O. No. 153, Development, dated 21st December 1933).

116. *Staff, clerical.*—The clerical staff consists of—

(*a*) *District Forest Office*—

Head clerk	1
Accountant	1
Routine clerks	4
Draughtsman	1
Typist	1
Peons	4

(*b*) *Range Offices*—

Range.	Range clerks.		Peons.	
	Permanent.	Temporary.	Permanent.	Temporary.
(1)	(2)	(3)	(4)	(5)
Alangayam	1	..	1	..
Tiruppattur	1	1	1	..
Chengam	1	..	1	1
Krishnagiri	1	..	1	..

117. *Labour supply.*—In the plains, labour though not plentiful is adequate. On the Javadis and Yelagiris Malayalis constitute the entire labour force. One village in the Alangayam range, five in the Tiruppattur range and thirty-eight in Chengam still remain under the Forest Village System and are bound to supply labour when called upon to do so. Details relating to these villages are given in Appendix V. Hitherto no serious difficulty has been experienced in obtaining the requirements of the department.

CHAPTER V.—PAST SYSTEMS OF MANAGEMENT.

SECTION 1.—GENERAL HISTORY OF THE FOREST.

118. *Introduction.*—The acquisition of the North Arcot district by the East India Company was completed on the 31st of July 1801, when Azim-ul-Umara, uncle and successor of the last Nabob of the Carnatic, handed over to the Company the whole of his civil and military authority and accepted in return a stipendiary allowance of one-fifth of its estimated revenue for the support of himself and his family.

119. *Period prior to the passing of the Madras Forest Act in* 1882.—The following extracts from Chapter XI, Volume II, of the 'Madras District Manuals', North Arcot, describe briefly the administration of the forests from the time they came under British control to the passing of the 'Madras Forest Act' in 1882, when matters were put on a regular footing and systematic reservation commenced.

120. "For long after the assumption of the district by the British no systematic control of the forests was attempted. Until 1844 the only tax upon timber was that collected as land customs by the Sayer (duties on imports and goods in transit) officials. When land customs were abolished, felling greatly increased, and became so indiscriminate that in 1846 the Collector, Mr. Lovell, directed that all jungles should be taken charge of by Tahsildars and that no tree should be felled without their permission, which should only be given for such trees as the monigar of the village pronounced fit to be felled. A small tax was at the same time levied, but it was too low to keep the jungles from being recklessly thinned. The charge, for instance, for a cart-load of red sanders wood was only Re. 1 while

in Cuddapah it was Rs. 6. The natural result was that red sanders almost disappeared, and that the Tirupati forests, in which alone it grew, were handed over to the Deputy Conservator of the Cuddapah district in 1861.

121. "In the following year Mr. J. D. Robinson, the Collector, brought conservancy rules for the first time into operation, fixing new rates of seigniorage, and adopting what he styled the 'Monigar Ranger and Yanadigilly' system. Village monigars collected the seigniorage and retained 20 per cent of the receipts as the remuneration for themselves and their watchers."

122. This system of forest conservancy appears to have continued until the passing of the Madras Forest Act in 1882. The forests, most of the best trees having already been removed in unregulated fellings for use on the railway, were now subjected to a further drain in that no restriction was placed on the cutting of saplings. Consequently the more accessible areas were being rapidly destroyed. In 1863 the Board of Revenue realized this most unsatisfactory state of affairs and proposed that the Vellore and Polur jungles of the neighbouring Vellore East division should be placed under a Deputy Conservator of Forests. Although this proposal was given effect to in 1865, no such action appears to have been taken with regard to forests of the present Vellore West division and the system of Monigar Ranger and Yanadigilly, and the destruction it entailed apparently continued until reservations took place under the Madras Forest Act.

123. *Period subsequent to the passing of the Madras Forest Act in* 1882.—The first reservations took place in 1886, when the Jalarpet, Narasingapuram and Mambakkam reserves, aggregating 14,456 acres, were notified under section 16 of the Act. In the following year a further area of 37,260 acres, comprising reserves in all four ranges, was added. Reservation then proceeded gradually until, in 1906, the total area of the reserves amounted to 2,23,636 acres. The Mambakkam extension, 224 acres in extent, was constituted a reserved forest in 1917, since which date there have been no more reservations.

124. An area of 292 acres was disreserved in the Bargur reserve, Krishnagiri range, in 1898 and since then minor areas, aggregating 4,168 acres, have been disreserved from time to time. At the time of writing the disreservation of some 200 acres in the Nandibanda reserve, Krishnagiri range, for extension of cultivation, is under consideration.

125. *Administrative changes.*—From 1865 to 1911 the North Arcot forest district corresponded in area and boundaries with the North Arcot revenue district and also had its headquarters at Chittoor. In 1911, when the revenue district was divided into the North Arcot and Chittoor districts, the forest district was also divided and similarly designated. The headquarters of the two forest districts were at Vellore and Chittoor. Later in the same year, 1911, the North Arcot forest district was further divided into the North and South Vellore forest divisions, with headquarters of both divisions at Vellore (G.O. No. 3837, Revenue, dated 13th November 1911).

126. On the 1st April 1917 the South Vellore division was again further divided into the South and West Vellore divisions, with headquarters at Vellore and Tiruppattur respectively. The Vellore West division then consisted of the present Tiruppattur, Chengam and Alangayam ranges. Krishnagiri range was added to the division in July 1920 (Government Notification No. 204, dated 14th May 1920).

127. In July 1929, owing to the transfer of a large number of reserves to panchayat management, and also for financial reasons, the Vellore North, South and West divisions were amalgamated into one division with its headquarters at Vellore (G.O. Mis. No. 789, Development, dated 31st May 1926). At the same time, the Krishnagiri range was transferred to the Salem North division. This single division continued for about six and a half years, during which period it became evident that the division was unweildy and too much for one District Forest Officer to administer. Consequently, in December 1932, it was divided into the East and West Vellore divisions, with headquarters at Vellore and Tiruppattur respectively (G.O. Mis. No. 1537, Development, dated 29th November 1932).

128. The Krishnagiri range was transferred back to Vellore West with effect from the 1st of June 1933 (G.O. Mis. No. 489, Development, dated 27th April 1933) and with this addition the constitution of the division became what it is to-day, i.e., four ranges, Alangayam, Tiruppattur, Chengam and Krishnagiri.

129. *Working plans.*—The first working plan was written by Mr. A. W. B. Higgens in 1901 and included the Alangayam, Narasingapuram, Kalarapatti, Mangalam, Vellaikuttai and Matarakadapa reserves, aggregating 24,669 acres. The Vellaikuttai and Matarakadapa reserves have since been transferred to panchayat management. Following this, several other working plans were written, each either covering a group of reserves or prescribing for the exploitation of one or more particular products. The statement below gives a list of working plans prepared and sanctioned up to the present.

Serial number and working plan for.	Sanctioned in	Area covered. Reserve.	Acres.	Produce.
(1)	(2)	(3)	(4)	(5)
1 The Alangayam Working Circle by A. W. B. Higgens.	B.P. Forest No. 249, dated 13th July 1901.	Alangayam, Vellaikuttai*, Narasingapuram, Kalarapatti, Matarakadapa* and Mangalam.	24,669	All produce except minor products.
2 The Krishnagiri Working Circle by C. E. Brasier.	B.P. Forest No. 352, dated 23rd November 1901.	Kothur, Bargur Neralakotta, Nandibanda, Maharajagadi, Maharajagadi Extension, Medugampalli, Neralapalli, Varatanapalli*, Togarapalli*, and Tottaikallu*.	34,678	Fuel and small timber, fodder grass and grazing.
3 The Tiruvannamalai range by V. C. Madurainayagam Pillai.	B.P. Forest No. 155, dated 22nd May 1902.	Tenmalai, Palamarathur, Nallapattu, Damarakadu*, Paramanandal, Chinnasamudram, Mudanai, Anandavadi, Melchengam*. Ravandavadi, Ponniyar, Pinjur*, and Munnurmangalam*.	136,371 †	Timber, fuel manure leaves and grazing.
4 The Tiruppattur taluk by Saiyid Burhanudin Sahib.	B.P. Forest No. 63, dated 31st March 1904.	Alangayan (part), Poongulam, Andiappanur, Mambakkam, Govindapuram, Singarapettai, Singarapettai extension, Inner Javadis, Nagaluthu, Nagaluthu extension, Jolarpet, Mangalam (part), and Mangalam extention.	88,412	All produce except sandai.
5 The Tiruppattur range by M. ama Rao.	1904 (B.P. No. and date not traceable.)	The Tiruppattur Javadis	30,152 (approximate).	Sandalwood only.
6 The Chengam and Polur (Vellore East) ranges by V. S. Gurunatha Pillai.	1905 (B.P. No. and date not traceable).	The Chengam (Thenmalais) and Polur Javadis.	1,41,882† (approximate).	All produce.
7 The Chengam Javadis by R. B. Cornwell.	B.P. Forest No. 198, dated 21st September. 1914.	Thenmalai, Palamarathur and Nallapattu.	38,199	Fuel, small timber, bamboos and grazing.
8 The Javadis and Yelagiri hills by C.C. Wilson.	B.P. Forest No. 172, dated 13th December 1915.	All the reserves of the Tiruppattur and Chengam ranges as constituted at present.	53,510†	Sandalwood only.
9 The West Vellore division by D. L. Sathe.	C.C.P. No. 316, Press, dated 10th November 1924.	All the reserves of the division as then constituted.	222,092	All produce except sandalwood.

* Reserves since transferred to panchayat management.
† Also includes other reserves outside the division.

130. Numerous amendments to the earlier plans have been sanctioned from time to time. These amendments were embodied in Mr. C. C. Wilson's Sandalwood Working Plan (B.P. Forest No. 172, dated 13th December 1915) and in Mr. D. L. Sathe's working plan for all other kinds of produce (C.C.P. Press No. 316, dated 10th November 1924). The Sandalwood Working Plan expired on the 31st March 1933, but its prescriptions have been renewed from year to year since. Mr. Sathe's working plan covered no definite period and is still current.

SECTION 2.—PAST SYSTEMS OF MANAGEMENT AND THEIR RESULTS.

Sandal.

(*a*) Prior to the last working plan.

131. *General.*—There is no record of any sandal operations in these forests prior to 1900. From 1900 to 1904, when the first sandalwood working plan was written, working was of a desultory nature, on the selection system, by departmental agency. An amount of Rs. 800 was realized by the sale of sandalwood extracted on the Javadis in the Chengam and Polur (Vellore East division) ranges. In the Tiruppattur range working by contractors was tried for two years but was found to be unsatisfactory.

132. *Early Working Plans.*—In 1904 Mr. Rama Rao's working plan for the Tiruppattur Javadis came into force, and in the following year systematic working on the Chengam and Polur (Vellore East division) Javadis began in accordance with the prescriptions of Mr. V. S. Gurunatha Pillai's working plan. Both these plans prescribed the extraction of dead and dying trees and all trees which were over 36 inches in girth at 4 feet from the ground. Tending throughout the area and sowing under clumps of coppice shoots in specially cleared and prepared ten acre blocks were prescribed; but, except for a certain amount of climber cutting by subordinates in 1906–07 and 1907–08, on which no expenditure was incurred, and sowing 10 acres in the Nagaluthu reserve on the Yelagiris in 1907, there is no record of these prescriptions having been carried out.

133. The method of extraction, cleaning, billetting, marking, etc., were done in accordance with the 'Standing order on Sandal Operations' drawn up by Mr. Rama Rao and issued by Mr. Lodge in the Salem district in 1901, and it is interesting to note that the present sandal extraction rules are based on this Standing Order.

134. These two working plans remained in force until Mr. C. C. Willson's working plan for the Javadi and Yelagiri Hills, according to which work is at present regulated, came into operation in 1915.

(*b*) The last working plan.

135. *Method of treatment and subdivision of the area.*—Mr. Wilson's working plan dealt with the Alangayam, Tiruppattur and Chengam ranges. (In the Krishnagiri range sandal occurs in scattered patches, but the conditions under which it is growing are so unfavourable and its quality so poor that practically no heartwood is produced). It prescribed Improvement Felling involving the extraction of dead and dying trees on a felling cycle of six years in the Tiruppattur and Chengam ranges and three years in the Alangayam range, where the area dealt with was much smaller. The sandal bearing areas of each range formed a separate working circle. The three working circles, Alangayam or Yelagiris, Tiruppattur and Chengam, were divided into two, four and three felling series, respectively. In practice this amounted to one working circle of nine felling series for the method of treatment was the same throughout. Thus, it was prescribed that nine coupes should be worked annually. The size of the coupes varied from 458 acres to 2,578 acres, depending on the density of the stocking.

136. *Fellings* were prescribed for a period of eighteen years, i.e., for three six-year cycles or six three-year cycles as the case may be. In 1917–18 no regular felling was done as extraction was confined to a number of trees which were blown over in a severe cyclone in the previous year. Thus the last cycle of the plan was not completed until 1933–34. From 1934–35 to 1936–37 fellings were continued in coupes I and III of each series in accordance with the prescriptions, pending revision of the plan.

137. *Extraction.*—It was prescribed that dead trees were to be removed in the year of felling, and dying trees girdled and left to die and dry for two years before being extracted. That part of the prescription relating to girdling was not sanctioned and the extraction of dying trees was discontinued from 1928–29 under orders issued in accordance with Resolution III of the Proceedings of the Conservators' Conference held in June 1927 (C.C. P. No. 230/27, Press, dated 13th July 1927).

138. *Tending* was prescribed in each coupe in the year following that of felling and was carried out accordingly up to 1922. In 1922, during the tour of the Commissioner of Land Revenue and the Conservator of Forests, Salem Circle, in the Javadis, the 'Malayalis' represented that they were too often disturbed in their agricultural pursuits by the frequent demands for labour made upon them by the forest department for sandalwood operations. After due consideration it was decided to carry out the tending simultaneously with the operation of marking and enumerating dead trees for extraction, i.e., tending was done in the year preceding that of felling (C.C.P. Routine No. 19, dated 10th February 1923).

139. The tending consisted of freeing crowns of sandal trees and their hosts from creepers cutting down or lopping trees interfering with the free development of sandal and helping sandal saplings by cutting back growth interfering with them. In 1929, the tending cycles was reduced from six to three years (C.C.P. Routine No. 262, dated 20th July 1929), but this was not given effect to for financial reasons.

140. In addition to this general tending, it was prescribed that *specially protected blocks*, from 25 to 100 acres in extent and containing particularly promising growth of young sandal, were to be selected in each of the annual coupes and rigidly protected from fire and grazing. These specially protected blocks were to be tended and watched until the young sandal growth was out of danger of suppression. It was assumed that this tending would not continue for more than the length of one felling cycle. Experience, however, showed, that it was difficult to find a block of the size prescribed in the plan, 25 to 100 acres, containing young growth throughout, and that the efficient fencing of a block of this size was an expensive business. Hence, except in a few cases, the selection of blocks could not be done as the working plan intended. Areas containing well established sandal trees were unnecessarily fenced and protected and the tending done in them was in no way different to the general tending carried out over the whole area. Therefore in 1929, it was decided to limit the size of each block to 10 acres (C.C.P. Ref. No. 9151/C. 2-29-1, dated 10th December 1929). Later, owing to financial stringency, further selection and tending of these specially protected blocks was held in abeyance.

141. Under *regeneration* it was prescribed that

(i) Immediately a coupe was felled, a cleaning should be done under all specially promising seed bearers, the soil raked up around them and all seedlings freed from interfering growth.

(ii) Sowings were to be done in small blanks wherever they occurred.

(iii) Thereafter the coupe was to be gone over annually for the next three years and young sandal kept clear of overhead and too much lateral shade.

142. *Cleaning* under specially promising seed bearers appears to have been done until 1922, but there is no record to show the extent to which this prescription was carried out. Writing in 1921, Mr. H. A. Latham, Conservator of Forests, records, "Fencing mother trees is to be stopped as, so far, practically no results have been seen which justify the labour involved." Again in 1922, Mr. Latham records "Mother trees are a waste of labour." From this date the prescription was discontinued, although no sanction seems to have been obtained for the deviation.

143. *Sowing in blanks* does not appear to have been done, but in 1927 it was ordered (Salem Circle Conservator's No. 127/27-M, dated 23rd February 1927) that each subordinate should produce at least one acre of established sandal in his beat annually. These sowings by subordinates were generally unsuccessful, although the sandal has succeeded in a few places.

144. *The more important results* achieved by Mr. Wilson's working plan may be summarized under two heads, viz.,

(i) The establishment of systematic working whereby the whole of the sandal bearing area of the division is gone over in six years and all dead trees extracted before they depreciate in value or are lost sight of.

(ii) A very considerable increase in the area of the sandal forest, believed to be about 20 per cent, which it is not unreasonable to assume is due to an increase in the number of seed bearers in the higher girth classes, brought about by the discontinuance of the extraction of healthy trees of 36 inches in girth and over. That mature trees were markedly deficient when Mr. Wilson carried out his enumeration in 1915 is evident from the fact that over an area of 53,547 acres only 1,945 trees (an average of 1 tree for every 28 acres) of 36 inches in girth and over were measured. Again, in paragraph 30 of his plan Mr. Wilson records, "When Mr. Rama Rao prepared his preliminary working plan for Tiruppattur range, then in Salem district, he raised the minimum felling girth by 6 inches and clearly proved when he did so that the lower girth at which felling had taken place previous to the preparation of his plan had resulted in considerable loss of revenue. From a perusal of his remarks on the subject it is evident that he was not at all confident that even his higher minimum would be sufficient, and this is without doubt the case, though what the correct figure may be we are not in a position to say even now owing to the lack of mature trees in the forest, already referred to."

Small timber, fuel and bamboos.

(*a*) Prior to the early working plans.

145. *Before* 1882.—A brief description of the manner in which removals took place in the Alangayam, Tiruppattur and Chengam ranges prior to the passing of the Madras Forest Act in 1882 is given in paragraphs 119 to 122 above. Permits for removals were issued on payment of seigniorage rates under the 'Monigar Ranger and Yanadigilly' system. There appears to have been no restriction as to the mode and place of felling. The entire establishment consisted of village monigars and their watchers, who probably spent little or no time on protection or supervision. Such unrestricted and random felling, coupled with the unregulated grazing and browsing by goats which took place before reservation, must have done incalculable harm to the forest. The Tenmalais (Chengam Javadis) are said to have been almost completely denuded of all sound and mature trees, so that for years ahead they could not be exploited consistently with silvicultural considerations. The plain forests of the Chengam range were worked to exhaustion by the Porto Novo Company, who erected large kilns at Tiruvannamalai and other places for the manufacture of charcoal.

146. 1882 *to the introduction of the early working plans.*—Even though the permit system continued for many years after reservations were made under the Madras Forest Act, the evil effects of the system were realized as early as 1885, when fellings in the Krishnagiri range were restricted to certain areas in the neighbourhood of Pachur and Mallanur railway stations and contractors made to fell all trees flush with the ground. In 1888, in the same range, the method of Coppice with Standards was introduced. In 1891 the further issue of permits in the Alangayam and Tiruppattur ranges was prohibited and certain reserves of these two ranges also brought under the method of Coppice with Standards. In 1892 similar treatment was applied in the Chengam range and to the remaining reserves of Alangayam and Tiruppattur. The two principal objects of management were to meet the demand of the then Madras Railway Company for wood fuel and to supply the neighbouring agricultural population with small timber.

147. The cutting and removal of bamboos on the permit system were stopped in 1890, when the contract system was introduced. The bamboo forests were divided into convenient blocks and each block was sold annually on a two years' lease. Each half block was worked in alternate years. Thus exploitation proceeded on a two year rotation. The usual silvicultural rules, the most important of which was that a minimum of eight culms should be left in each clump, were prescribed but, it is recorded, were ignored. This fact, together with the short rotation of two years, brought about a grave deterioration of the bamboo forests, necessitating the adoption of a five-year rotation in the working plans which followed.

(*b*) Early Working Plans.

148. *Fuel.*—When the first working plan was written in 1901, the fuel forests of the division were already being worked departmentally by the method of Coppice with Standards; but, although definite areas were prescribed for working each year, no definite rotation was adopted. The old working plans prescribed the continuance of the method of Coppice with Standards and fixed the rotation for coppice at 27 years for the forests of the Alangayam range, 30 years for the Javadis, including the Tenmalais, and 32 years for the Krishnagiri reserves. The rotation for the standards was left to be determined at a later date. Coupes were laid out without reference to communications or accessibility and were often several hundred acres in extent, the largest, in the Krishnagiri range, having an area of 690 acres. Departmental working continued until 1908, the principal object of management being the supply of wood fuel to the railway. Subsequently coupes were leased to contractors, but, with the railway demand for wood fuel decreasing every year, there was no continuity of work and the demand for fuel coupes became steadily worse. Rules regarding the reservation of standards and the cutting and removal of thorns and prickly-pear by contractors were relaxed, but with no effect. This state of affairs continued until 1924, when a complete revision of the distribution and extent of felling series involving the exclusion of inaccessible and overworked areas, and a very considerable reduction of the area of the annual coupes, brought about an improvement.

149. *Timber.*—Mr. D. L. Sathe, in paragraph 14 of his Working Plan for the forests of the West Vellore Division (C.C.P. No. 316, Press, dated 10th November 1924) records —

> "The old working plans prescribed several timber felling series which were worked on selection method spasmodically and in a haphazard way for ploughs and other articles of agricultural and domestic use, but they were all abolished in 1915 (vide B.P. Mis. No. 664, dated 23rd October 1915). In 1918 four timber improvement felling series were started with small annual coupes to be worked with the Malayali labour left available after attending to sandal working. These four series were situated as follows:—one in the Kottur specially protected block on the Yelagiris, one in Poongulam reserved forest, one in Chelkal basin on the Tenmalais and one in Mambakkam reserved forest (vide Conservator's No. 23-Pl. of 1917, dated 25th October 1917, and Dis No. 467-A/18, dated 28th December 1918)."

Records show that there was practically no extraction from these four felling series, the villagers preferring to obtain their requirements by illicit removals from other parts of the forests more conveniently situated with reference to their villages and cultivation.

150. *Bamboos.*—To give the bamboo forests a chance of recovering from the degraded condition brought about by overworking prior to 1901 (vide paragraph 147 above), the early working plans prescribed a rotation of five years. This continued until 1913, when the rotation was reduced to three years (B.P. Forest No. 18, dated 30th January 1913), except for the unreserves of Puliyur and Kambugudi on the Tiruppattur Javadis, Mantharakuttai in the Alangayam range, and of the Yelagiris, where the original two-year rotation still applied. The reason for these exceptions to the three year rotation is probably the fact that the unreserves in question were not included in any of the early working plans and therefore not affected by the increase in the rotation from three to five years and its subsequent reduction to three years.

151. *Artificial regeneration.*—Restocking of blanks in timber and fuel coupes by sowing seeds of the principal species, either broad-cast or along ploughed furrows 2 feet apart, was prescribed in some of the early working plans, but there is nothing on record to show the extent to which the prescriptions were carried out or the results obtained.

152. *Minor Forest Produce.*—Except for the reserves of the Tiruppattur range, the early working plans did not prescribe for the extraction of minor produce. In the Tiruppattur range the different kinds of minor products were sold separately with a view to finding out the exact yield of each, but any data which may have been collected are not traceable now.

153. *Grazing.*—Even in the early working plans the grazing requirements of the villages which were dependent on reserves for pasture, received careful attention. Except for closure to grazing of worked fuel coupes, for periods of five or six years—a practice dating back to 1892, no restrictions were imposed. In the Alangayam, Tiruppattur and Krishnagiri ranges hay-making was prescribed on an experimental scale, the object being to store fodder for sale to the villagers during the hot season or in times of scarcity. Whether this was done or not is not known. In 1902 Rotational Grazing, on a twelve-year cycle, was prescribed, grazing being allowed over 5/6 the area while the remaining $\frac{1}{6}$ was closed for a period of two years. Here again, there are no records to show if the system worked satisfactorily or not. However, no further mention is made of it when the working plan in question was revised.

154. *Fire protection.*—Prior to the introduction of the last working plans (Nos. 6 and 9 of the list in paragraph 129 above) fire protection operations seem to have been confined to worked coupes, which were protected from fire during the year preceding felling and for five or six years after, the period of protection coinciding with the period of closure to grazing. A system of 'Organised Patrols' was prescribed for the Tenmalais (Chengam Javadis) and the northern slopes of the Kalrayan Hills, but it is not known what the details of the system were.

(*c*) The last working plan.

155. *General* work is at present regulated by Mr. D. L. Sathe's working plan, which was sanctioned in C.C.P. No. 316, Press, dated 10th November 1924.

156. *Fuel.*—Mr. Sathe's working plan (sanctioned in C.C.P. No. 316, Press, dated 10th November 1924) which dealt with all produce except sandalwood prescribed eighteen felling series to be worked by the method of Simple Coppice. The District Forest Officer had the option of reserving a number of seed bearers in coupes where it was desirable to do so. Sandal trees, wherever occurring, were reserved; and the retention of tamarind trees was left to the discretion of the Conservator. In addition to sandal and tamarind bark yielding species—*Cassia auriculata, Cassia fistula* and *Ventilago spp.*—and saplings of valuable species under 9 inches in girth were retained.

157. A rotation of 40 years was prescribed, but in 1933 it was increased to 50 years for the Maharajagadai and Naralapalli felling series of the Krishnagiri range (C.C.P. No. 367, dated 17th August 1933).

158. Of the eighteen felling series which were prescribed the Varatanapalli series of the Krishnagiri range was transferred to panchayat control and the Maharajagadai series of the same range was divided into two series, Maharajagadai East and Maharajagadai West, with the object of reducing the size of the annual coupe (C.C.P. No. 367, dated 17th August 1933).

159. Coupes were not numbered nor were they assigned to definite years of working; thus no confusion owing to arrears resulted. It will be seen from the statement in paragraph 188 below that this prescription was fully justified. For instance, the Andiappanur and Govindapuram felling series of the Tiruppattur range ceased to function in 1928 and 1929, respectively, while in many other cases the demand has been intermittent. This state of affairs was due chiefly to general trade depression and, in some measure, to the inaccessibility of coupes, their remoteness from markets and the inclusion of unproductive areas.

160. *Timber.*—In the so-called 'timber forests' of the division three Improvement felling series on a ten year cycle, and three Selection-cum-Improvement felling series on a twenty-year cycle were prescribed. These were :—

Improvement felling series

Pungulam on the Javadis.
Kottur on the Yelagiris.
Kilpat on the Tenmalais.

Selection-cum-Improvement.

Velankuppam on the Inner Javadis.
Cheyyar on the Tenmalais.
Perumalai on the Tenmalais.

161. All the series were situated in difficult country on the hills, where labour is scarce. With the exception of Pungulam, none of the series are served by any road or cart-track. The demand was not as much as was anticipated and the quality of the timber so poor that of the three Improvement felling series, the Kilpat series was abandoned in 1933 (C.C.P.

No. 357, Misc., dated 11th August 1933), while the other two were worked very irregularly, the gross annual revenue during the period 1924–25 to 1934–35 being :—

	RS.	A.	P.
Pungulam	137	6	8
Kottur	118	3	10

(Vide paragraph 112 above.)

162. The Selection-cum-Improvement series were almost a complete failure. Except for one year, 1927–28, when the undermentioned coupes were sold, the three series were not worked at all.

Velankuppam, Coupe	I	Rs. 375	Average area of coupe about 235 acres.
Do.	,, II	Rs. 358	
Cheyyar	,, II	Rs. 125	
Perumalai	,, III	Rs. 150	

163. *Bamboos.*—The reserves and unreserves in which bamboos were found in workable quantities were divided into twenty-five felling series and worked on a three-year rotation. No felling rules were prescribed, but the usual rules were inserted in agreements signed by contractors. These rules were, however, generally disregarded. Contractors and their agents seldom, if ever, enter the coupe. The rates paid to coolies for collection are so poor that it is almost impossible for a man to earn a living wage unless he goes to the forest, nearest his village, irrespective of whether it lies in the year's coupe or not, and removes from it as many culms as he possibly can in the quickest and easiest manner. Consequently areas in the vicinity of villages have been grossly overworked. Whole clumps have been felled and culms, including those of the current year, cut at a height of anything from 4 to 15 feet from the ground. In addition to this most unsatisfactory state of affairs the 'Malayalis' are responsible for the wholesale hacking of *Dendrocalamus strictus* for fodder, throughout the area, and for the removal of tender culms for basket making. Contractors have been fined for breach of felling rules from time to time and deductions have been made from the grazing deposits of 'Malayalis'. It is, however, evident that the action taken has had little or no effect on the offenders and the damage still continues.

164. The right to fell and remove bamboos in each block or felling series is being sold in auction on a *triennial lease* beginning with the 1st April in each period. The present leases are current up to 31st March 1938.

165. The system of *triennial leases* was introduced in about 1907 and has been continued since. The system originated with the idea of helping contractors in the matter of organizing labour, in making and recovering advances to and from coolies and in the construction and improvement of extraction roads. Probably the system commands better prices than annual sales would as, in addition to working facilities afforded them, contractors are more independent of market fluctuations and consequently in a position to bid higher prices. Reversion to annual leases has been contemplated from time to time but not seriously considered.

166. *Artificial regeneration.*—It was prescribed that Rs. 300 should be spent on concentrated regeneration in the Fuel Working Circle on lines approved by the Conservator. Prior to 1931–32 operations were confined to dibbling in blanks, which usually occurred in places where artificial regeneration was not likely to succeed. Consequently attempts at restocking generally failed and the little that did succeed was so scattered that it was soon lost sight of.

167. In 1931–32 *Rab* sowings (Dibbling seeds in the ash of burnt heaps of debris) were started, but only a very limited area was sown each year. Nevertheless the operation was carried out with care and forethought. The results obtained are discussed in paragraphs 258 to 269 of the Part II chapter dealing with the Fuel and Small Timber Working Circles and have been taken into consideration when making proposals for future working.

168. Experimental clear felling followed by burning and dibbling in patches at an espacement of 9 feet by 9 feet over an area of 5 acres in each of the first two coupes of the Kottur Improvement Felling Series was prescribed, but was subsequently cancelled in Chief Conservator's R.O.C. No. 150-26/3, dated 2nd February 1926.

169. *Minor Forest Produce.*—The right of collection for all products, except konnai bark throughout the division and avaram bark in the Alangayam and Chengam ranges is sold in auction in June each year, the lease period running from 1st July, or the date of execution of agreements, to the 30th of the following June. Konnai bark is being sold once in 5 years (C.C.P. Mis. Nos. 2, dated 3rd January 1933 and 263, dated 2nd June 1934), the lease period being for one year only as in the case of other products, the ensuing four years constituting a period of rest. Avaram bark in the Alangayam and Chengam ranges is being sold on a triennial lease (Conservator's No. 926-27-A, dated 11th September 1927).

170. The unit of lease for avaram, konnai and sural barks throughout the division has been the range, including unreserves. The collection of gallnuts in Alangayam, Tiruppattur and Chengam, and of nux-vomica in Krishnagiri, has also been leased by ranges, including unreserves. All other products, including nux-vomica in the Alangayam, Tiruppattur and Chengam ranges and gallnuts in the Krishnagiri range have been leased by blocks (C.C.P. Mis. Nos. 2, dated 3rd January 1933 and 263, dated 2nd June 1934). There are 15 blocks, the areas of which vary from 900 acres to 40,573 acres, the average being 18,700 acres, and they have been allocated with reference to the distribution of labour and extraction paths, so that friction between neighbouring contractors is reduced to a minimum. For boundaries, reserve lines, natural and permanent artificial features have been chosen.

171. The following areas, which have been handed over to panchayat control have since been excluded from the blocks,.

Locality.	Area.	Block from which excluded.	Authority.
(1)	(2)	(3)	(4)
	ACS.		
Melchengam reserve	1,542	Ponnaiyar (Chengam range) ..	C.C.P. No. 263, Miscellaneous, dated 2nd June 1934.
Damarakad reserve	6,133	Pudupalayam (Chengam range).	Do.
Varatanapalli reserve .. .. } Varatanapalli extension .. .. }	2,031	Oppathavadi (Krishnagiri range).	C.C.P. No. 2, Miscellaneous, dated 3rd January 1933.
Thogarapalli reserve	900	Thogarapalli (Krishnagiri range.)	Do.

172. The present system of leases works satisfactorily, but it should be realized that, as the average jurisdiction of a forest guard is 8·75 square miles, it is impossible for subordinates to exercise an efficient control over removals. Contractors submit monthly statements showing the quantity of each kind of product removed by them during the lease period, but it is probable that the figures so furnished are inaccurate.

173. *Grazing.*—Under the Forest Village System (paragraph 33 above) the hill reserves in the Tiruppattur, Chengam and Alangayam ranges are divided into 75 grazing blocks. Each village still under the System (paragraph 34 above) is given a block and is responsible for its protection from theft, for keeping sandal trees free from cover and climbers and for supplying labour, on payment, for works undertaken by the department. In return they are granted the concession of free grazing. Grazing fees, at the usual rates and based on the results of the last triennial cattle census, are collected from them at the beginning of the grazing season, held in deposit and at its close refunded to them either in whole or in part depending on the degree of protection attained. The blocks have been selected in such a way that the Forest Village System can be introduced into any block, where it does not already apply, without interfering with the exercise of the concession in neighbouring blocks.

174. A list of villages which are at present enjoying the concessions, together with details relating to the number of cattle grazed by each, the amount of its grazing deposit and the location and area of its grazing block, is given in Appendix V.

175. In areas where the Forest Village System is not in force, grazing is allowed at the following rates, which have been sanctioned by Government and are liable to alteration from time to time.

	Tiruppattur, Alangayam and Chengam ranges.				*Krishnagiri range.*			
	RS.	A.	P.		RS.	A.	P.	
Buffaloes	1	0	0	per head.	0	12	0	per head.
Cows	0	8	0	Do.	0	8	0	Do.
Sheep	0	4	0	Do.	0	3	0	Do.

Cattle for which permits have been purchased in a neighbouring division are allowed to graze on payment of half the above fees. Double fees are charged for 'foreign'* cattle.

176. Reference has already been made, in paragraph 71 above to the dangerously high incidence of grazing to which the forest is subjected; but this is unavoidable as the policy of Government will not permit of any reduction in the number of cattle which are grazed annually in the reserves.

177. *Fire protection.*—The system in use falls under two heads, viz.,

(*a*) *Special protection* involving clearing and burning the following lines to a width of 15 to 20 feet—

(i) Around the Kottur block containing sandal and valuable timber species; $5\frac{1}{4}$ miles.

* The difference between 'Foreign' and 'Local' cattle has been defined in paragraph 324 below.

(ii) District boundary line between Alangayam range and Vellore East division 7 miles.

(iii) District boundary line between Chengam range and Vellore East division 9 miles.

(iv) Important paths, about 15 miles.

(*b*) *General protection.*—The whole forest has been divided into a number of fire protection blocks with well-defined boundaries. In the hill reserves these blocks correspond to the grazing blocks under the Forest Village System. In the rest of the area blocks are allotted to those villages which habitually graze their cattle in them. Rewards are paid for successful protection and vary from 12 annas to Re. 1 per 100 acres, suitable deductions being made where protection is bad.

178. Since 1931, owing to financial stringency, fire lines have not been cleared and burnt regularly. The fire line round the Kottur blocks was cleared and burnt during 1934, 1935 and 1936 at a cost of Rs. 21 annually, while the 7 miles of district boundary in the Alangayam range was cleared and burnt in 1936 at a cost of Rs. 43. Important foot-paths were however fire-traced annually.

179. The following statements show the expenditure incurred annually and the results obtained for the five-year period ending 1935 :—

Expenditure.

Year.	Maintenance of interior fire lines.	Maintenance of exterior fire lines.	Fire rewards.	Fire tracing foot-paths.	Total expenditure.	Total area attempted to be protected.	Cost per square mile.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	SQ. MILES.	RS. A. P.
1930–31	..	..	786 11 0	100 8 0	887 3 0	302	2 15 0
1931–32	..	..	840 5 0	70 1 0	910 6 0	302	3 0 3
1932–33	..	..	664 10 0	88 0 0	752 10 0	350	2 2 5
1933–34	..	..	678 0 0	94 3 0	772 3 0	350	2 3 4
1934–35	..	21 0 0	699 15 0	119 5 0	840 4 0	350	2 6 5

Results obtained.

Year.	Area attempted (square miles).		Area protected (square miles).		Percentage of success.	
	Special.	General.	Special.	General.	Special.	General.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1931	207	95	130	94	63	99
1932	207	95	198	95	96	100
1933	207	143	198	95	96	66
1934	207	143	199	141	96	99
1935	207	143	199	142	96	99

SECTION 3.—SPECIAL WORKS OF IMPROVEMENT UNDERTAKEN.

180. *General.*—The following statements give details of roads, buildings and wells maintained by the department.

181. *Roads*—

Serial number and name of road. (1)	Year(s) of construction. (2)	Length. (3)		Capital cost.* (4)	Cost of upkeep.* (5)
		M.	F.	RS.	RS.
1 Andiappanur-Kumbugudi	1910–11	11	6	23,442	383
2 Maharajagadi-Pooŋguruthi	1912	4	4	685	73
3 Alangayam-Komittiyur (Gillman Road) ..	1918–19	10	2	30,420	683
4 Kavalur-Mandarakuttai. Improved (cart-track).	1924–25	3	0	169	53

* The amounts noted in column (4) include cost of acquisition of land while those in column ( ) are the averages for the three-year period ending 1934–35.

Serial number and name of road.	Year(s) of construction.	Length.		Capital cost.*	Cost of upkeep.*
(1)	(2)	(3)		(4)	(5)
		M.	F.	RS.	RS.
5 Kavalur-Vasantapuram	1926–27	4	3	681	71
6 Paramanandal inspection shed approach road.	1929–30	0	3	89	19
7 Vasantapuram to the Andiappanur-Kumbugudi road.	1931–32	2	6	1,470	99
8 Komittiyur-Patrakad road to Kuttathur ..	1934–37	4	5†	2,925	No data available.

* The amounts noted in column (4) include cost of acquisition of land, while those in column (5) are the averages for the three-year period ending 1934–35.

† Of this length 150 yards lies in the Vellore East Division, but is maintained by Vellore West.

182. *Buildings*—

Serial number and name of building.	Year of construction.	Capital cost.		Cost of upkeep.
		Site.	Building.	
(1)	(2)	(3)	(4)	(5)
		RS.	RS.	RS.
Alangayam range.				
1 Alangayam rest house	1892	247	692	
Out-houses	1892	..	140	36
Stables and motor shed	1892	..	119	
2 Kottur rest house	1908	71	860	
Out-houses	1908	..	830	58
3 Kavalur rest house	1918	150	3,869	
Out-houses	1918	..	1,431	87
Stables	1918	..	438	
4 Range Officer's quarters	1926	..	3,600	24
Out houses	1930	..	748	
5 Range clerk's quarters	1930	..	1,210	11
Latrine	1931	..	68	
6 Kottur subordinates' quarters	1910	24	990	13
7 Mittoor subordinates' quarters	1913	8	300	45
8 Kavalur forester's quarters	1926–27	18	1,460	23
9 Kavalur forest guard's quarters..	1928	11	2,281	14
10 Range office	1924	232	2,048	13
Tiruppattur range.				
11 Andiappanur rest house	1907	..	800	
Out-houses	1907	..	150	9
12 Singarapettai rest house	1909–10	22	492	
Out-houses	1909–10	..	240	52
13 Pudur rest house	1919	124	1,423	
Out-houses	1919	64	625	21
14 Kambugudi rest house	1901	..	1,857	
Out-houses	1913–14	..	523	26
15 Nellivasal rest house and out-houses	1933–35	..	6,496	8
16 District Forest Office	1896	..	1,005	31
Out-houses	1896	..	495	99
Latrine	1925	..	100	112
Extension	1934–35	9	2,660	Data not available.
17 Range office	1916	..	1,657	10
18 Sandalwood depot, original	1909	200	1,700	
Depot keeper's office room	1917	..	150	
Godown extension	1918	..	1,138	
Chipping shed	1918	..	413	
Western extension	1919	..	2,102	57
Northern extension	1925–26	..	2,629	
Eastern extension	1931	..	4,722	
Zinc shed for godown	1931	..	2,886	
19 Mambakkam inspection shed	1927	20	900	
Out-houses	1927	..	243	54
20 Kambugudi subordinates' quarters	1910	..	1,693	43
21 Nellivasal subordinates' quarters	1922	36	2,818	25
22 Pudur subordinates' quarters	1923–24	..	734	23
23 Sherkanur inspection shed	1927	20	990	
Out-houses	1927	..	218	40

Serial number and name of building.	Year of construction.	Capital cost. Site.	Capital cost. Building.	Cost of upkeep.
(1)	(2)	(3)	(4)	(5)
		RS.	RS.	RS.
Chengam range.				
24 Melpattu rest house	1896	..	900	16
Out-houses	1896	..	106	
25 Kuttathur rest house	1919	..	2,020	7
Out-houses	1919	..	925	
26 Puliyur inspection shed	1919	25	60	32
27 Paramanandal inspection shed	1927	19	798	32
Out-houses	1927	..	180	
28 Pudupalayam subordinates' quarters	1915	27	2,075	13
29 Kuttathur subordinates' quarters	1919	6	2,082	24
30 Melpattu subordinates' quarters	1927–28	..	1,961	24
31 Paramanandal subordinates' quarters	1896	32	260	105
32 Ariyakunjur subordinates' quarters	1910–11	..	486	16
Krishnagiri range.				
33 Madugampalli rest house and out-houses	1912	300	2,727	13
34 Maharajagadi inspection shed and out-houses	1898	150	1,000	21
35 Range officer's quarters	1899	450	1,841	67
Stables and out-houses	1910	..	469	
36 Range office	1923	..	2,340	4

NOTE.—The figures in column (5) represent the average for the three-year period ending 1934–35, and do not include cost of special repairs.

183. *Wells.*—

Serial number and situation of well.	Date of construction.	Capital cost.	Cost of upkeep.
		RS.	RS.
(1)	(2)	(3)	(4)
Alangayam range.			
1 Muttanur village	1919	418	..
2 Alangayam range office	1923	144	3
3 Kavalur (tube well)	1922–23	2,279	47
4 Kottur village	1930–31	1,007	..
5 Vasanthapuram	1929	269	..
6 Mittoor subordinates quarters	1913	40	..
Tiruppattur range.			
7 District Forest Office	1926	100	44
8 Andiappanur rest house	1916	144	..
9 Singarapettai	1916	144	..
10 Sherkanur	1929	383	8
11 Melpet village	1930	590	..
12 Pudur village *	Natural	75	41
13 Puliyankottai (tank).†	Do.	500	..
14 Nellivasal rest house	1933–34	230	..
Chengam range.			
15 Paramandal	..	100	..
16 Melpattu	..	200	12
17 Kuttathur	..	467	..
18 Pudupalayam	1912	160	26
Krishnagiri range.			
19 Range Officer's quarters	1911	220	46
20 Madugampalli rest house	1912	200	46

NOTE.—The figures in column (4) represent the average for the three-year period ending 1934–35.
* Natural pond, which is being maintained as a well.
† Tank, the assessed value of which is Rs. 500.

SECTION 4.—PAST YIELDS.

184. *General.*—The following statements show the yields of the various kinds of produce from the date of introduction of the working plan relating to each to 1935–36. Sandalwood yields from the working plan area and from localities outside it have been shown separately. The denomination of the quantity of each minor product is given in column (1) of the statement (paragraph 189) and is the same as that used in the local markets.

185. *Statement showing the annual yield of sandalwood from the working plan area, 1915–16 to 1935–36.*

Year.	Alangayam Range. Athanavur series. Number of trees.	Alangayam Range. Athanavur series. Yield of heartwood.	Alangayam Range. Kottur series. Number of trees.	Alangayam Range. Kottur series. Yield of heartwood.	Tiruppattur Range. Kambugudi series. Number of trees.	Tiruppattur Range. Kambugudi series. Yield of heartwood.	Tiruppattur Range. Mambakkam series. Number of trees.	Tiruppattur Range. Mambakkam series. Yield of heartwood.	Tiruppattur Range. Pudur series. Number of trees.	Tiruppattur Range. Pudur series. Yield of heartwood.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
		QRS. LB. OZ.		QRS. LB. OZ.		QRS. LB. OZ.		QRS. LB. OZ.		QRS. LB. OZ.
1915–16	4	3 16 1	6	2 4 15	786	197 0 0	81	53 0 0	70	38 0 0
1916–17	76	45 9 2	14	3 24 0	73	231 27 12	2,876	2,613 4 8	401	241 8 7
1917–18	3	0 16 8	15	2 6 0	319	500 16 4	1,904	1,545 8 12	459	361 27 12
1918–19	..	..	..	..	622	633 18 8	713	421 11 0	1,047	611 13 12
1919–20	41	16 12 12	10	1 5 4	547	433 10 4	1,226	1,914 9 4	107	509 12 4
1920–21	11	44 12 4	19	70 0 4	192	205 24 12	966	430 0 8	440	228 2 4
1921–22	50	44 26 0	8	1 1 12	53	40 17 8	154	104 0 0	515	247 1 4
1922–23	31	31 25 8	21	34 11 8	1,372	518 18 0	32	15 1 8	855	531 16 0
1923–24	23	56 24 0	20	60 6 8	209	130 18 8	483	240 3 12	420	365 5 0
1924–25	21	8 0 4	18	6 4 4	956	827 17 14	1,771	758 25 4	553	231 6 0
1925–26	32	20 4 12	50	7 26 0	1,903	990 23 0	2,525	1,535 10 0	681	491 23 8
1926–27	2,725	61 18 0	30	19 16 2	668	757 10 4	43	75 13 0	187	71 5 0
1927–28	22	25 14 4	16	1 16 8	187	265 11 4	215	137 19 12	305	129 3 4
1928–29	55	6 23 6	119	22 20 0	1,743	391 13 12	1,757	614 25 12	2,367	1,272 14 8
1929–30	4	1 7 12	321	91 21 12	154	166 9 8	484	425 1 0	590	452 9 12
1930–31	388	152 13 10	39	5 14 6	379	613 20 4	95	80 18 14	248	201 6 8
1931–32	..	..	..	..	79	90 21 0	53	105 18 4	37	59 15 0
1932–33	2,544	370 9 8	387	117 17 12	236	404 4 0	61	54 24 8	46	17 10 12
1933–34	1,214	245 19 8	153	26 10 0	14	11 21 4	180	110 10 12	119	56 1 8
1934–35	1,103	303 26 8	46	14 16 4	814	360 26 12	61	45 9 0	1,914	881 9 12
1935–36	172	77 2 0	273	216 4 12	198	110 12 12	1,196	761 20 6	1,524	1,021 3 12
Total ..	**8,519**	**1,517 1 13**	**1,565**	**705 3 15**	**11,504**	**7,883 7 2**	**16,876**	**11,042 11 12**	**12,885**	**7,928 27 15**
Annual average yield.	**405·66**	**72 6 12**	**74·52**	**33 16 3**	**547·81**	**375 11 0**	**803·62**	**525 23 4**	**613·57**	**377 16 0**

Year.	Chengam Range. Puliyur series. Number of trees.	Chengam Range. Puliyur series. Yield of heartwood.	Chengam Range. Palamarathur series. Number of trees.	Chengam Range. Palamarathur series. Yield of heartwood.	Chengam Range. Melpattu series. Number of trees.	Chengam Range. Melpattu series. Yield of heartwood.	Chengam Range. Nellivoi series. Number of trees.	Chengam Range. Nellivoi series. Yield of heartwood.	Total for division. Number of trees.	Total for division. Yield of heartwood.
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
		QRS. LB. OZ.		QRS. LB. OZ.		QRS. LB. OZ.		QRS. LB. OZ.		QRS. LB. OZ.
1915–16	255	160 0 0	53	201 19 14	521	1,059 15 14	132	770 2 6	1,908	2,485 2 8
1916–17	156	181 4 5	196	602 4 13	351	1,219 22 11	133	673 0 1	4,276	5,811 21 11
1917–18	144	93 8 8	59	238 7 14	225	597 10 6	29	59 10 8	3,157	3,399 0 8
1918–19	1,941	1,201 12 4	38	94 14 12	199	468 26 0	50	183 25 12	4,610	3,615 10 0
1919–20	330	220 1 12	286	519 16 14	52	70 4 12	48	69 1 8	2,647	2,753 18 10
1920–21	3,871	2,110 25 12	377	590 22 15	521	792 18 8	126	220 3 8	6,523	4,692 26 11
1921–22	270	190 19 8	480	525 11 0	1,061	1,404 26 4	166	434 24 4	2,757	2,993 15 8
1922–23	561	325 0 4	82	150 1 4	998	1,858 6 10	211	302 26 4	4,163	3,767 22 14
1923–24	1,042	657 3 4	101	266 5 12	431	827 0 13	298	435 12 4	3,027	3,038 23 13
1924–25	1,242	954 24 8	154	429 20 8	471	863 12 0	440	587 27 11	5,626	4,667 26 5
1925–26	375	78 0 0	556	894 14 0	220	463 14 8	321	193 1 8	6,663	4,585 5 4
1926–27	302	409 1 0	402	542 18 12	383	639 7 0	179	273 27 0	4,919	2,815 4 2
1927–28	329	145 4 8	130	263 16 8	629	1,208 8 12	73	149 2 0	1,906	2,325 12 12
1928–29	653	463 19 8	76	232 18 8	547	1,479 20 8	219	553 8 0	7,536	5,037 24 0
1929–30	309	204 27 12	129	282 25 8	130	291 1 12	132	163 2 0	2,253	2,078 22 12
1930–31	441	477 27 10	334	432 3 4	145	292 10 12	240	301 18 12	2,309	2,557 22 0
1931–32	153	65 15 4	1,148	1,642 19 4	..	..	..	..	1,470	1,964 4 12
1932–33	1,280	980 23 0	326	464 1 8	433	707 1 4	231	265 23 12	5,544	3,382 4 0
1933–34	127	138 8 4	154	269 2 12	490	740 16 0	150	271 22 4	2,601	1,870 0 4
1934–35	300	263 8 0	122	120 4 4	540	1,169 8 8	341	579 9 10	5,241	3,738 6 10
1935–36	396	247 22 12	65	231 0 4	431	445 19 8	254	311 22 8	4,509	3,422 24 10
Total ..	**14,477**	**9,569 5 11**	**5,268**	**8,993 26 2**	**8,778**	**16,598 27 12**	**3,773**	**6,899 19 8**	**83,645**	**71,038 19 10**
Annual average yield.	**689·40**	**455 18 15**	**250·80**	**428 7 15**	**418·00**	**790 12 0**	**179·70**	**328 15 9**	**3,983·10**	**3,382 22 4** **42·29 tons.**

186. *Statement showing the quantity of sandalwood obtained annually outside the Working Plan area from reserves, unreserves, patta fields and bungalow compounds, 1915–16 to 1935–36.*

Year.	Range.	Locality.	Number of trees.	Yield of heart-wood.	Total for the year. Number of trees.	Total for the year. Yield of heart-wood.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
				QRS. LB. OZ.		QRS. LB. OZ.
1915–16 ..						
1916–17 ..	....	....	..	..	..	..
1917–18 ..	Tiruppattur	Puliyur unreserved	1,495	3,098 3 3	1,495	3,998 3 3
	Do.	Do.	1,155	2,591 24 8	..	..
1918–19 ..	Do.	Patta field	46	199 15 9	1,201	2,791 12 1
	Do.	Do.	7	36 4 0	..	..
	Do.	Unreserves	2,275	2,005 21 8	..	..
	Chengam	Do.	3 pieces	0 20 0	2,282 3 pieces.	2,042 17 8
1919–20 ..	Tiruppattur	Patta fields	41	205 18 11	..	..
1920–21 ..	Do.	All over (spiked trees)	211	155 2 12	252	360 21 7
1921–22 ..	Do.	Do.	2,481	1,246 14 4	2,481	1,246 14 4
1922–23 ..	Do.	Do.	1,728	1,391 18 8	1,728	1,391 18 8
	Do.	Do.	32	78 24 2	..	..
	Do.	Patta fields	32	11 12 8	..	..
	Do.	Forest lodge	4	2 8 12	68	92 17 6

Year. (1)	Range. (2)	Locality. (3)	Number of trees. (4)	Yield of heart wood. (5)	Total for the year. Number of trees. (6)	Total for the year. Yield of heart-wood. (7)
				QRS. LB. OZ.		QRS. LB. OZ.
1923-24 ..	Tiruppattur ..	.. Patta fields	298	783 4 8	..	..
	Do. ..	.. All over (spiked trees)	3	14 0 12	301	797 5 4
1924-25 ..	Do. ..	.. Do.	20	46 12 4	..	..
	Do. ..	.. Patta fields	522	511 1 8	..	..
	Do. ..	.. Chinnasamudram reserve	39	16 11 4	581	573 25 0
1925-26 ..	Do. ..	.. Patta fields	6,027	752 13 4	..	..
	Do. ..	.. Andiyappanur reserve	9	29 2 4	..	..
	Chengam ..	.. Enclosures in Coupe IV Nellivoi series.	65	131 11 0	6,101	912 26 8
1926-27 ..	Tiruppattur ..	.. Patta fields				
1927-28 ..	Do. ..	.. Do.	247	747 24 12	247	747 24 12
1928-29 ..	Do. ..	.. Do.	215	463 12 0	215	463 12 0
	Do. ..	.. Andiyappanur reserve	260	309 9 0	..	..
1929-30 ..	Do. ..	.. Do.	3	0 20 0	263	310 1 0
	Do. ..	.. Patta fields	149	61 13 8	..	..
	Chengam ..	.. Do.	546	4,905 26 12	..	..
1930-31 ..	Do. ..	.. Do.	427	3,165 9 12	1,122	8,132 22 0
	Tiruppattur ..	.. Do.	452	5,683 19 8	..	..
1931-32 ..	Do. ..	.. Do.	467	3,239 3 1	919	8,922 22 9
1932-33 ..	Do. ..	.. Do.	158	584 26 6	158	584 26 6
1933-34 ..	....	....	114	602 10 0	114	602 10 0
1934-35 ..	Tiruppattur ..	.. Mambakkam reserve	158	194 27 12	..	..
	Do. ..	.. Patta fields	63	320 1 12	..	..
	Chengam ..	.. Do.	61	29 11 8	..	..
	Alangayam ..	.. Five burnt trees	23	7 21 0	..	..
1935-36 ..	Do. ..	.. Narasingapuram fuel coupe IX ..	4	0 21 0	305	552 6 0
	Tiruppattur ..	.. Andiyappanur reserve	73	29 27 8	..	..
	Do. ..	.. Inner Javadi reserve	90	26 22 12	..	..
	Do. ..	.. Patta fields	8	41 1 4	..	..
	Do. ..	.. Porambokes	23	2 4 4	..	..
	Do. ..	.. Confiscated wood	7	17 22 8	..	..
	Do. ..	.. Forest Lodge	1	0 5 0	..	..
	Chengam ..	.. Thenmalai reserve	1	35 9 0	..	..
	Do. ..	.. Porambokes	1	0 5 0	..	..
	Do. ..	.. Confiscated wood	1	0 14 0	209	154 20 4
		Total for period ..	..	..	20,042	33,778 26 0
		Average annual quantity	..	..	954	1,608 14 or 20·1 tons.

187. *Statement showing the annual yield of bamboos*—1924-25 to 1935-36.

Felling series.	1924-25. Coupe. Number.	1924-25. Coupe. Area in acres.	1924-25. Yield in culms. Round.	1924-25. Yield in culms. Split.	1925-26. Coupe. Number.	1925-26. Coupe. Area in acres.	1925-26. Yield in culms. Round.	1925-26. Yield in culms. Split.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
				Alangayam Range.				
Nagaluthu	II	2,157	1,460	1,020	III	2,550	25,540	..
Mangalam	II	1,884	1,14,940	11,280	III	2,595	1,90,020	..
Pungulam	II	2,414	72,000	6,040	III	2,899	95,600	..
Alangayam	II	2,692	91,600	2 800	III	3,696	1,82,440	..
Nayakkanur	II	1,376	1,68,800	4,000	III	1,280	1,87,200	..
Mandarakuttai	II	966	2,66,400	24,200	III	1,220	2,33,200	..
Yelagiri	II	1,360	580	600	III	1,390	5,840	..
Kavalur	II	1,140	80,000	..	III	1,196	80,000	..
				Tiruppattur Range.				
Andiyappanur	II	2,566	49,660	10,925	III	3,046	1,66,755	28,130
Mambakkam	II	3,146	37,730	41,080	III	3,050	28,255	33,370
Singarapettai	II	2,320	10,035	20,210	III	1,358	5,710	11,330
Puliyanur	II	856	87,685	53,225	III	1,396	78,090	1,07,875
Malai-Tiruppattur ..	II	2,167	7,380	2,600	III	2,143	13,120	2,100
Nadukuppam	II	2,440	28,460	2,940	III	2,894	92,160	9,560
Thagarakuppam	II	2,937	16,000	..	III	2,875	..	..
Kambugudi	II	2,075	48,940	42,760	III	2,760	75,745	21,435
Puliyur	II	4,912	7,830	12,790	III	4,232	28,385	11,415
				Chengam Range.				
Palamarathur	II	1,802	1,81,900	6,000	III	1,198	1,94,400	36,400
Nallapattu, North ..	II	866	34,337	620	III	909	6,857	17,479
Nallapattu, South ..	II	695	14,865	..	III	985	Sold with Nallapattu north coupes.	
Thenmalai, East	II	1,430	2,000	..	III	1,252	6,800	..
Thenmalai, Central ..	II	944	..	..	III	1,301	..	..
Bandirevu	II	1,206	1,20,800	800	III	1,660	57,200	..
Kallathur	II	1,482	35,600	28,200	III	1,816	4,800	..
Kuppanatham	II	788	11,060	7,680	III	734	71,620	11,040

Statement showing the annual yield of bamboos—1924–25 to 1935–36—cont.

Felling series.	1926–27. Coupe. Number. (10)	Area in acres. (11)	Yield in culms. Round. (12)	Split. (13)	1927–28. Coupe. Number. (14)	Area in acres. (15)	Yield in culms. Round. (16)	Split. (17)
Alangayam Range—cont.								
Nagaluthu	I	1,858	1,780	226	II	2,157	8,480	4,180
Mangalam	I	1,601	1,52,860	24,320	II	1,884	1,38,780	19,160
Pungulam	I	3,890	57,520	1,200	II	2,414	40,220	6,900
Alangayam	I	5,202	55,440	4,960	II	2,692	2,240	740
Nayakkanur	I	1,500	1,38,400	11,740	II	1,376	1,75,200	1,200
Mandarakuttai	I	1,040	2,47,800	5,140	II	966	1,94,800	..
Yelagiri	I	1,560	3,340	300	II	1,360	1,040	..
Kavalur	I	1,302	1,56,400	2,800	II	1,140	1,12,000	400
Tiruppattur Range—cont.								
Andiyappanur	I	2,656	2,200	..	II	2,566	300	..
Mambakkam	I	4,636	1,39,865	62,885	II	3,146	94,340	29,780
Singarapettai	I	1,426	17,435	28,940	II	2,320	24,840	25,080
Puliyanur	II	1,163	40,555	10,470	I	856	56,038	49,640
Malai-Tiruppattur	I	1,620	27,465	26,545	II	2,167	33,520	5,420
Nadukuppam	I	2,592	1,95,880	9,305	II	2,440	1,68,800	8,080
Thagarakuppam	I	2,840	42,705	3,720	II	2,937	1,55,960	..
Kambugudi	I	2,052	8,865	31,335	II	2,075	78,820	30,000
Puliyur	I	5,562	21,615	70,490	II	4,912	6,140	..
Chengam Range—cont.								
Palamarathur	I	2,075	3,06,700	3,200	II	1,802	2,72,860	10,800
Nallapattu, North	I	739	8,268	51,038	II	866	24,845	9,265
Nallapattu, South	I	728	Sold with Nallapattu North coupes.		II	695	24,845	5,815
Thenmalai, East	I	1,504	71,200	1,120	II	1,430	19,140	1,660
Thenmalai, Central	I	1,520	16,760	..	II	944	1,36,440	2,260
Bandirevu	I	1,300	1,69 620	4,920	II	1,206	3,13,350	3,800
Kallathur	I	1,060	75 360	2,560	II	1,482	73,400	810
Kuppanatham	I	674	1,36,880	2,980	II	788	47,760	600

Felling series.	1928–29. Coupe. Number. (18)	Area in acres. (19)	Yield in culms. Round. (20)	Split. (21)	1929–30. Coupe. Number. (22)	Area in acres. (23)	Yield in culms. Round. (24)	Split. (25)
Alangayam Range—cont.								
Nagaluthu	III	2,550	17,680	3,360	I	1,858	31,030	63,240
Mangalam	III	2,595	1,37,540	27,880	I	1,601	23,040	..
Pungulam	III	2,899	1,47,640	780	I	3,890	55,820	31,320
Alangayam	III	3,696	43,820	160	I	5,202	965	4,280
Nayakkanur	III	1,280	1,78,000	800	I	1,500	32,400	5,600
Mandarakuttai	III	1,220	1,860	..	I	1,040	83,600	10,400
Yelagiri	III	1,390	..	160	I	1,560	Sold with Nagaluthu Coupe I.	
Kavalur	III	1,196	1,17,200	..	..	..	..	..
Tiruppattur Range—cont.								
Andiyappanur	III	3,046	56,600	..	I	2,656	72,000	..
Mambakkam	III	3,050	48,920	..	I	9,636	70,140	..
Singarapettai	III	1,358	77,820	1,680	I	1,426	36,610	2,640
Puliyanur	III	1,396	43,415	11,220	II	1,163	1,78,945	1,072
Malai-Tiruppattur	III	2,143	45,940	480	I	1,620	30,930	711
Nadukuppam	III	2,894	1,00,140	5,000	I	2,592	1,13,690	1,125
Thagarakuppam	III	2,875	1,96,500	80	I	2,840	1,32,700	1,300
Kambugudi	III	2,760	1,59,000	..	I	2,052	2,73,230	..
Puliyur	III	4,232	38,100	..	I	5,562	51,800	..
Chengam Range—cont.								
Palamarathur	I	2,075	12,54,150	..	III	1,198	1,39,300	28,800
Nallapattu, North	III	909	3,900	87,560	I	739	76,800	11,200
Nallapattu, South	III	985	3,900	86,000	I	728	Not worked.	
Thenmalai, East	III	1,252	12,520	..	I	1,504	..	..
Thenmalai, Central	III	1,301	20,100	..	I	1,520	2,665	3,760
Bandirevu	III	1,660	2,17,860	..	I	1,300	94,570	240
Kallathur	III	1,816	1,50,100	..	I	1,060	22,440	4,680
Kuppanatham	III	734	5,440	..	I	674	28,200	27.760

Felling series.	1930–31. Coupe. Number. (26)	Area in acres. (27)	Yield in culms. Round. (28)	Split. (29)	1931–32. Coupe. Number. (30)	Area in acres. (31)	Yield in culms. Round. (32)	Split. (33)
Alangayam Range—cont.								
Nagaluthu	II	2,157	13,565	25,880	III	2,550	1,629	20,14,700
Mangalam	II	1,884	17,905	38,400	III	2,595	1,73,200	21,840
Pungulam	II	2,414	59,370	14,240	III	2,899	2,88,460	3,880
Alangayam	II	2,692	345	1,520	III	3,696	42,060	1,700
Nayakkanur	II	1,376	41,810	10,400	III	1,280	2,12,940	21,660
Mandarakuttai	II	966	64,200	1,97,600	III	1,220	2,58,000	20,400
Yelagiri	..	..	Sold with Nagaluthu Coupe II.		III	1,390	Sold with Nagaluthu Coupe III.	
Kavalur	..	..	Not worked as the area was given for cultivation.					
Tiruppattur Range—cont.								
Andiyappanur	II	3,816	58,300	8,000	III	3,046	1,19,590	22,000
Mambakkam	II	3,146	59,020	10,000	III	3,050	89,600	23,000
Singarapettai	II	2,320	31,995	4,160	III	1,358	5,125	44,320
Puliyanur	I	856	48,300	10,540	III	1,396	1,29,990	1,74,770
Malai-Tiruppattur	II	2,167	56,810	16,000	III	2,143	7,910	1,080
Nadukuppam	II	2,440	84,240	8,100	III	2,894	91,995	13,700
Thagarakuppam	II	2,937	1,13,480	..	III	2,875	1,36,835	60
Kambugudi	II	2,075	1,86,190	10,000	III	2,760	2,14,710	55,000
Puliyur	II	4,912	37,300	..	III	4,232	28,800	10,000
Chengam Range—cont.								
Palamarathur	II	1,802	55,500	..	I	2,075	99,215	34,560
Kallapattu, North	II	866	97,100	9,600	III	909	57,400	34,560
Kallapattu, South	II	695	91,800	63,200	III	985	43,300	89,600
Thenmalai, East	II	1,430	5,400	1,760	III	1,252	11,915	200
Thenmalai, Central	II	944	11,900	..	III	1,301	68,135	..
Bandirevu	II	1,206	13,465	4,080	III	1,660	1,09,695	..
Kallathur	II	1,482	18,695	2,008	III	1,816	18,055	24,360
Kuppanatham	**II**	788	**34,330**	**5,920**	**III**	734	**24,085**	13,760

*Statement showing the aunual yield of bamboos—1924-25 to 1935-36—*cont.

Felling s ries.	1932-33. Coupes. Number. (34)	Area in acres. (35)	Yield in culms. Round. (36)	Split. (37)	1933-34. Coupe. Number. (38)	Area in acres. (39)	Yield in culms. Round. (40)	Split. (41)
Alangayam Range—cont.								
Nagaluthu	I	1,858	38,720	29,760	II	2,157	44,715	16,430
Mangalam	I	1,601	42,295	31,240	II	1,884	1,10,596	37,620
Pungulam	I	3,890	17,600	1,600	II	2,414	45,160	4,560
Alangayam	I	5,202	3,740	1,960	II	2,692	17,448	820
Nayakkanur	I	1,500	63,600	30,600	II	1,376	2,26,455	2,320
Mandarakuttai	I	1,040	81,400	54,400	II	966	2,31,440	400
Yelagiri	I	1,560	14,380	920	II	1,360	972	320
Kavalur	..	..	..	..	..	..	..	..
Tiruppattur Range—cont.								
Andiyappanur	I	2,656	55,845	18,200	II	3,816	71,984	8,378
Mambakkam	I	4,636	2, 45,517	28,800	II	3,146	27,015	1,050
Singarapettai	I	1,426	61,635	6,600	II	2,320	61,558	1,140
Puliyanur	II	1,163	1,19,880	28,070	I	856	1,39,986	74,430
Malai-Tiruppattur ..	I	1,620	31,820	43,900	II	2,167	33,200	7,340
Nadukuppam	I	2,592	1,25,200	31,840	II	2,440	74,700	2,01,360
Thagarakuppam	I	2,840	2,30,300	1,36,600	II	2,937	8,08,000	42,000
Kambugudi	I	2,052	65,360	34,780	II	2,075	24,165	10,350
Puliyur	I	5,562	71,638	23,900	II	4,912	29,231	4,020
Chengam Range—cont.								
Palamarathur	III	1,198	33,000	40,800	II	1,802	1,25,280	..
Nallapattu, North ..	I	739	60,075	1,600	II	866	2,69,040	..
Nallapattu, South ..	I	728	17,400	21,600	II	695	1,03,120	..
Thenmalai, East	I	1,504	5,495	..	II	1,430	..	..
Thenmalai, Central ..	I	1,520	805	400	II	944	3,384	..
Bandirevu	I	1,300	33,105	1,600	II	1,206	1,87,876	16,520
Kallathur	I	1,060	33,455	21,000	II	1,482	45,052	17,600
Kuppanatham	I	674	16,600	29,040	II	788	45,972	55,000

Felling series.	1934-35. Coupe. Number. (42)	Area in acres. (43)	Yield in culms. Round. (44)	Split. (45)	1935-36. Coupe. Number. (46)	Area in acres. (47)	Yield in culms. Round. (48)	Split. (49)
Alangayam Range—cont.								
Nagaluthu	III	2,550	15,700	5,505	I	1,858	30,720	15,084
Mangalam	III	2,595	77,216	51,820	I	1,601	29,160	51,680
Pungulam	III	2,899	81,972	14,004	I	3,890	87,726	480
Alangayam	III	3,696	83,924	2,000	I	5,202	5,040	3,200
Nayakkanur	III	1,280	1,53,160	..	I	1,500	1,19,745	1,600
Mandarakuttai	III	1,220	1,49,600	4,120	I	1,040	5,17,493	19,440
Yelagiri	III	1,390	..	..	I	1,560	24,660	5,600
Kavalur	..	..	..	..	..	..	..	..
Tiruppattur Range—cont.								
Andiyappanur	III	3,046	82,555	61,995	I	2,656	55,985	4,320
Mambakkam	III	3,050	17,705	14,680	I	4,636	80,470	27,155
Singarappettai	III	1,358	32,085	1,12,740	I	1,426	3,56,749	25,035
Puliyanur	III	1,396	65,630	49,280	II	1,163	59,775	37,780
Malai-Tiruppattur ..	III	2,143	21,520	1,537	I	1,620	57,700	23,010
Nadukuppam	III	2,894	10,450	20,940	I	2,592	81,365	29,080
Thagarakuppam	III	2,875	68,373	8,472	I	2,840	1,96,390	3,30,100
Kambugudi	III	2,760	17,185	8,715	I	2,052	50,295	14,590
Puliyur	III	4,232	25,040	44,720	I	5,562	34,040	22,140
Chengam Range—cont.								
Palamarathur	I	2075	3,07,200	60,000	III	1,198	3,38,400	84,000
Nailapattu, North ..	III	909	2,45,600	92,000	I	739	2,01,638	24,475
Nailapattu, South ..	III	985	2,71,600	64,000	I	728	2,54,000	66,000
Thenmalai, East ..	III	1,252	12,880	2,600	I	1,504	22,800	1,750
Thenmalai, Central ..	III	1,301	2,05,815	8,200	I	1,520	1,440	9,300
Bandirevu	III	1,660	3,29,915	10,600	I	1,300	2,16,920	9,000
Kallathur	III	1,816	2,49,000	4,06,700	I	1,060	1,39,220	29,050
Kuppanatham	III	734	22,400	17,800	I	673	33,100	36,050

188. *Statement showing the annual yield of fuel and small timber—1924–25 to 1935–36.*

Felling series. (1)	1924–25. Area worked in acres. (2)	Small timber in cubic feet. (3)	Fuel in tons. (4)	1925–26. Area worked in acres. (5)	Small timber in cubic feet. (6)	Fuel in tons. (7)	1926–27. Area worked in acres. (8)	Small timber in cubic feet. (9)	Fuel in tons. (10)
Alangayam Range.									
Alangayam	75	..	1,300	82	440	1,648	105	284	1,822
Narasingapuram	112	..	386	174	..	485	242	400	455
Pungulam	..	..	..	42	..	50	103	480	304
Badakuppam	..	..	..	34	..	210	173	..	498
Tiruppattur Range.									
Andiyappanur	23	80	91	80	..	125	23	..	46
Govindapuram	..	..	..	82	120	129	40	..	62
Singarapettai	28	80	89	37	104	361	34	178	280
Chinnasamudram	..	..	..	28	640	31	..	..	..
Chengam Range.									
Anandavadi	44	160	105	80	1,680	355	179	..	151
Sorapanandal	26	200	23	21	160	8	130	..	27
Mudanai	..	..	..	..	..	..	50	40	70
Paramanandal	..	..	..	12	..	61	19	..	14
Krishnagiri Range.									
Maharajagadai, East and West	..	..	..	..	..	..	..	..	..
Neralapalli	..	..	..	..	..	..	..	..	
Burgur	24	137	11	..	..	..	26	..	148
Nandibanda	42	442	57	65	424	92	40	..	112
Kottur	78	..	162	..	..	..	89	..	225

Felling series.	1927–28. Area worked in acres. (11)	Small timber in cubic feet. (12)	Fuel in tons. (13)	1928–29. Area worked in acres. (14)	Small timber in cubic feet. (15)	Fuel in tons. (16)	1929–30. Area worked in acres. (17)	Small timber in cubic feet. (18)	Fuel in tons. (19)
Alangayam Range.									
Alangayam	90	216	1,867	103	104	1,379	90	280	943
Narasingapuram	126	..	151	..	..	..	104		277
Pungulam	67	..	116	..	..	..	68	244	293
Badakuppam	64	240	421	42	..	561	72	120	815
Tiruppattur Range.									
Andiyappanur	95	..	30	4	..	..	..	..	..
Govindapuram	53	40	119	23	120	32	..	..	..
Singarapettai	31	80	102	10	120	38	..	..	..
Chinnasamudram	32	..	119	29	560	83	21	..	33
Chengam Range.									
Anandavadi	78	..	134	..	..	..	101	1,000	162
Sorapanandal	46	440	40	..	..	..	34	..	48
Mudanai	43	160	48	48	120	142	46	210	122
Paramanandal	..	..	..	9	..	8	6	40	19
Krishnagiri Range.									
Maharajagadai East and West	..	..	..	10	..	19	94	..	686
Neralapalli	213	..	371	212	..	313	200	..	881
Burgur	29	..	140	27	..	199	22	..	43
Nandibanda	22	..	74	28	..	105	45	..	86
Kottur	..	..	..	94	80	220	..	..	..

Felling series.	1930–31. Area worked in acres. (20)	Small timber in cubic feet. (21)	Fuel in tons. (22)	1931–32. Area worked in acres. (23)	Small timber in cubic feet. (24)	Fuel in tons. (25)	1932–33. Area worked in acres. (26)	Small timber in cubic feet. (27)	Fuel in tons. (28)
Alangayam Range.									
Alangayam	104	360	860	95	600	889	118	720	880
Narasingapuram	86	..	135	112	..	210	96	..	427
Pungulam	..	..	..	..	..	..	47	..	191
Badakuppam	104	40	575	98	80	441	45	..	83
Tiruppattur Range.									
Andiyappanur	..	..	..	..	..	..	..	..	..
Govindapuram	..	..	..	..	..	..	..	..	..
Singarapettai	..	..	..	68	640	182	..	..	..
Chinnasamudram	..	..	..	29	120	44	20	40	45
Chengam Range.									
Anandavadi	108	..	63	88	..	129	92	2,960	325
Sorapanandal	26	..	19	36	..	33	20	..	77
Mudanai	23	120	70	59	200	219	69	320	223
Paramanandal	..	..	..	..	..	..	6	12	3
Krishnagiri Range.									
Maharajagadai East and West	444	..	1,069	425	40	1,710	205	120	764
Neralapalli	90	..	742	88	..	550	..	..	..
Burgur	17	40	53	28	..	131	19	..	107
Nandibanda	45	..	140	55	160	88	49	160	223
Kottur	..	..	..	60	..	91	179	..	321

Statement showing the annual yield of fuel and small timber—1924–25 to 1935–36—cont.

Felling series.	1933–34. Area worked in acres.	1933–34. Small timber in cubic feet.	1933–34. Fuel in tons.	1934–35. Area worked in acres.	1934–35. Small timber in cubic feet.	1934–35. Fuel in tons.	1935–36. Area worked in acres.	1935–36. Small timber in cubic feet.	1935–36. Fuel in tons.
	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)
Alangayam Range.									
Alangayam	111	1,280	835	145	..	714	57	800	**153**
Narasingapuram	108	..	340	103	..	192	70	..	**137**
Pungulam	37	80	518	..	..	..	..	..	..
Badakuppam	165	40	432	136	40	444	110	200	**531**
Tiruppattur Range.									
Andiyappanur	..	..	..	..	..	..	..	..	..
Govindapuram	..	..	..	..	..	..	..	..	..
Singarapettai	36	..	70	22	640	141	9	160	..
Chinnasamudram	..	..	..	21	160	58	21	120	**3**
Chengam Range.									
Anandavadi	67	960	202	..	..	..	62	..	**113**
Sorapanandal	47	..	175	26	..	179	31	..	**185**
Mudanai	6	..	23	..	..	..	..	..	..
Paramanandal	14	160	14	18	..	80	..	..	..
Krishnagiri Range.									
Maharajagadai, East and West	200	..	682	205	..	776	181	..	**2**
Neralapalli	34	1	193	42	..	150	54	..	**1**
Burgur	19	..	55	29	..	103	31	..	**25**
Nandibanda	40	..	100	53	..	129	..	..	..
Kottur	36	..	351	60	..	110	54	..	**16**

NOTE.—Blanks indicate that coupes were not sold as there was no demand.

189. *Statement showing the quantities of Minor Forest Produce collected annually during the six-year period*—1930–31 *to* 1935–36.

Products. (For Botanical names, *see* paragraph 89.)		Alangayam Range. 1930–31.	1931–32.	1932–33.	1933–34.	1934–35.	1935–36.
(1)		(2)	(3)	(4)	(5)	(6)	(7)
Grass for broom, headload		..	..	..	..	..	..
Creeper for basket making, headload		..	..	..	..	..	..
Honey, Madras measure		..	..	..	..	..	..
Avaram bark	Lb.	1,500	6,040	4,150	1,000	..	1,500
Konnai bark	,,	..	..	..	..	8,000	12,300
Serul bark	,,	3,930	3,022	250	3,200	4,400	550
Gallnut	,,	9,500	13,750	1,001	8,813	36,175	15,505
Tamarind	,,	10,250	8,975	21,600	250	5,950	6,100
Seakai	,,	50	1,075	125	..	2,566	1,360
Pungam	,,	6,001	2,500	3,875	8,575	10,650	1,925
Bee wax	,,	325	..	..	..	..	..
Mani-pungam	,,	3,781	2,250	..	..	..	..
Custardapple	,,	..	..	..	..	..	..
Nellikai	,,	..	..	..	..	..	..
Yettikottai	,,	..	..	..	..	..	..
Mahali root	,,	..	..	..	..	..	..
Wood apple	Number.	36,100	18,000	7,875	1,125	1,725	..

Products. (For Botanical names, *see* paragraph 89).		Tiruppattur Range. 1930–31.	1931–32.	1932–33.	1933–34.	1934–35.	1935–36.
		(8)	(9)	(10)	(11)	(12)	(13)
Grass for broom, headload		..	46	..	22	10	..
Creeper for basket making, headload		..	26	..	17	10	..
Honey, Madras measure		..	..	..	..	..	..
Avaram bark	Lb.	..	600	8,750	2,750	2,250	11,800
Konnai bark	,,	..	..	..	16,625	30,900	..
Serul bark	,,	1,525	2,712	1,752	..	1,100	1,365
Gallnut	,,	40,501	99,238	45,890	26,800	48,700	76,825
Tamarind	,,	10,250	3,012	6,552	4,768	4,000	495
Seakai	,,	300	..	..	..	225	826
Pungam	,,	1,550	2,600	808	893	10,130	210
Bee wax	,,	..	..	..	..	..	..
Mani-pungam	,,	..	8,400	4,608	7,500	2,850	1,175
Custardapple	,,	..	..	..	..	..	..
Nellikai	,,	..	80	..	308	..	..
Yettikottai	,,	..	300	..	..	..	500
Mahali root	,,	2,212	10,946	5,800	538	6,525	2,000
Woodapple	Number.	..	25,220	9,500	2,550	22,000	200

Products. (For Botanical names, *see* paragraph 89.)		Chengam Range. 1930–31.	1931–32.	1932–33.	1933–34.	1934–35.	1935–36.
		(14)	(15)	(16)	(17)	(18)	(19)
Grass for broom, headload		225	..	..	26	..	..
Creeper for basket making, headload		446	522	632	1	520	12
Honey, Madras measure		..	..	114	..	400	3
Avaram bark	Lb.	1,050	4,008	10,750	53,666	1,800	10,430
Konnai bark	,,	..	..	..	..	13,500	4,000
Serul bark	,,	..	4,928	125	4,175	4,150	2,600
Gallnut	,,	46,236	7,584	22,062	18,063	9,050	17,850
Tamarind	,,	..	375	1,172	625	600	7,000
Seakai	,,	..	..	..	..	..	15,900
Pungam	,,	3,938	2,352	7,688	5,440	7,695	..
Bee wax	,,	..	..	16	..	40	4
Mani-pungam	,,	..	2,736	1,425	260	14,920	11,634
Custard apple	,,	..	..	..	..	..	..
Nellikai	,,	..	..	625	..	..	..
Yettikottai	,,	..	..	..	..	..	§ 800
Mahali root	,,	750	..	..	..	800	..
Woodapple	Number.	4,700	3,000	1,200	..	200	..

Statement showing the quantities of Minor Forest Produce collected annually during the six-year period—1930–31 *to* 1935–36—cont.

Products. (For Botanical names, *see* paragraph 89.)		Krishnagiri Range. 1930–31. (20)	1931–32. (21)	1932–33. (22)	1933–34. (23)	1934–35. (24)	1935–36. (25)	Annual average yield for the division. (26)
Grass for broom, Headload		..	..	..	..	..	..	55
Creeper for basket making, Headload		..	..	..	..	..	..	364
Honey, Madras measure		..	..	..	..	..	..	86
Avaram bark	Lb.	4,840	1,820	29,460	8,400	11,480	400	29,740
Konnai bark	,,	..	..	7,960	..	..	..	15,548
Serul bark	,,	..	..	..	..	..	..	6,631
Gallnut	,,	..	..	..	..	..	..	9,060
Tamarind	,,	1,495	44,888	27,112	3,443	63,384	3,640	39,156
Seakai	,,	..	4,560	..	112	..	..	4,517
Pungam	,,	..	..	..	..	..	..	12,805
Bee wax	,,	..	..	..	..	..	..	64
Mani-pungam	,,	..	..	..	..	..	..	10,257
Custard apple	,,	4,896	..	2,280	476	..	..	1,275
Nellikai	,,	..	..	..	..	..	..	152
Yettikottai	,,	..	..	..	..	..	..	1,100
Mahali root	,,	..	..	..	..	..	..	4,929
Woodapple	Number.	..	504	..	..	..	..	22 317

SECTION 5.—PAST REVENUE AND EXPENDITURE.

190. The Vellore West division, as at present constituted, was formed on the 1st of April 1932. It is therefore only possible to furnish figures of revenue and expenditure from that year. They are set forth in the statement below :—

Year. (1)	Revenue. Sandalwood. (2) Amount.	Per cent.	Small timber. (3) Amount.	Per cent.	Fuel. (4) Amount.	Per cent.	Bamboos. (5) Amount.	Per cent.	Grazing. (6) Amount.	Per cent.
	RS.		RS.		RS.		RS.		RS.	
1932–33	21,353	30	1,123	2	3,119	4	20,352	29	14,882	21
1933–34	31,587	33	855	1	3,506	4	15,940	17	25,816	27
1934–35	28,081	40	537	1	3,555	5	12,533	18	24,308	34
1935–36	35,660	38	846	1	3,742	4	13,622	14	24,531	26
Average	29,170	35	840	1	3,480	4	15,562	19	22,384	27

Year.	Revenue—*cont.* * Minor Forest Produce. (7) Amount.	Per cent.	Miscellaneous. (8) Amount.	Per cent.	† Refunds. (9) Amount.	Per cent.	Total less refunds. (10)	Expenditure. Establishment. (11) Amount.	Per cent.
	RS.		RS.		RS.		RS.	RS.	
1932–33	5,978	8	6,827	10	2,629	4	71,005	46,026	76
1933–34	11,218	12	9,307	9	3,049	3	95,180	53,087	77
1934–35	10,374	15	6,565	9	15,367	22	70,386	51,121	72
1935–36	10,955	12	7,558	8	2,490	3	94,424	52,007	74
Average	9,631	12	7,564	9	5,884	7	82,749	50,560	74

Year.	Expenditure—*cont.* Conservancy. ‡ Exploitation. (12) Amount.	Per cent	Improvement and upkeep of forest. (13) Amount.	Per cent.	Miscellaneous. (14) Amount.	Per cent.	Total. (15)	Surplus or deficit. (16)
	RS.		RS.		RS.		RS.	RS.
1932–33	8,976	14	6,373	10	41	..	61,416	+ 9,589
1933–34	9,303	13	6,564	9	361	1	69,315	+ 25,865
1934–35	10,288	14	9,447	13	380	1	71,236	– 850
1935–36	10,507	15	7,470	11	70	..	70,055	+ 24,369
Average	9,768	15	7,464	11	213	..	68,005	+ 14,744

* Includes unreserves.
† Includes refund of grazing fees collected from villages under the Forest Village System.
‡ Includes Rs. 5,292, pay of 39 Reserve watchers.

CHAPTER VI.—STATISTICS OF GROWTH AND YIELD.

SECTION 1.—SANDAL.

191. *Growing stock.*—Sandal covers an area of 52,937 acres in the reserves and unreserves of the Alangayam, Tiruppattur and Chengam ranges. Of this area 2,232 acres, comprising small, scattered, unproductive patches, have been excluded from the Sandal Working Circle. The total number of trees enumerated in the Sandal Working Circle exclusive of village survey fields, is :—

Healthy	8,09,899
Dead and dying	53,837

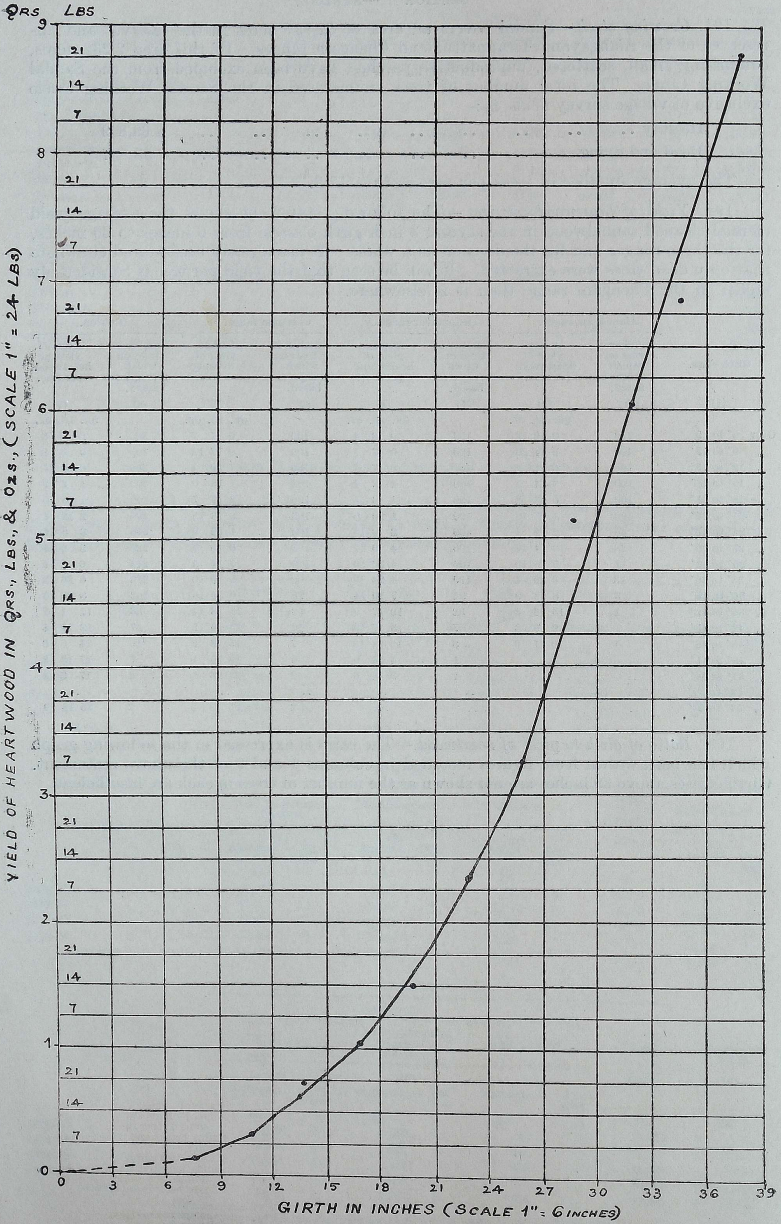
The average number of trees per acre is thus 17·2.

192. *Yield of heartwood per tree.*—The following statement shows the average yield of final cleaned sandalwood in the several 3 inch girth classes, from 6 inches to 60 inches, for the three ranges and for the division as a whole. It has already been stated elsewhere that only dead trees were extracted. It will be seen that the yield per tree is considerably higher in the Chengam range than it is elsewhere.

Girth class.	Alangayam range.		Tiruppattur range.		Chengam range.		Division.	
	Number of trees on which averages are based.	Average yield of heartwood per tree.	Number of trees on which averages are based.	Average yield of heartwood per tree.	Number of trees on which averages are based.	Average yield of heartwood per tree.	Number of trees on which averages are based.	Average yield of heartwood per tree.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		QR. LB. OZ.		QR. LB. OZ.		QR. LB. OZ.		QR. LB. OZ.
Over 6″ to 9″	100	0 2 13	100	0 3 4	100	0 7 7	300	0 4 8
,, 9″ to 12″	100	0 4 10	100	0 7 1	100	0 17 12	300	0 9 8
,, 12″ to 15″	100	0 8 4	100	0 17 7	100	1 9 1	300	0 20 15
,, 15″ to 18″	100	0 14 5	100	1 2 4	100	1 18 0	300	1 2 3
,, 18″ to 21″	100	0 23 2	100	1 8 4	100	2 15 7	300	1 15 10
,, 21″ to 24″	100	1 25 12	100	1 20 0	100	3 18 15	300	2 12 4
,, 24″ to 27″	46	2 18 4	100	2 0 13	100	4 25 9	246	3 8 14
,, 27″ to 30″	28	3 4 14	100	4 9 11	100	6 19 1	228	5 6 5
,, 30″ to 33″	11	5 19 10	100	4 23 10	100	7 14 5	211	6 4 4
,, 33″ to 36″	13	6 20 4	100	4 24 10	100	9 0 10	213	6 26 3
,, 36″ to 39″	3	8 13 9	84	7 19 14	75	10 4 15	162	8 25 0
,, 39″ to 42″	1	15 6 4	32	10 17 9	33	11 8 14	66	11 1 2
,, 42″ to 45″	1	9 6 8	7	5 17 10	19	15 0 12	27	12 10 8
,, 45″ to 48″	1	10 11 0	8	13 24 13	7	15 8 2	16	14 8 0
,, 48″ to 51″	..	..	1	4 24 0	6	19 16 1	7	17 13 3
,, 51″ to 54″	..	..	1	3 14 0	2	23 26 4	3	17 3 8
,, 54″ to 57″	..	..	..	..	..	..	..	..
,, 57″ to 60′	..	..	..	..	2	25 18 9	2	25 18 9

193. *Ratio of girth to yield of heartwood.*—The ratio is expressed in the following graph which has been drawn from figures recorded in columns 1 and 9 of the above statement. Girth classes above 39 inches are not shown as the number of trees in each are insufficient.

Ratio of Girth (0″ to 39″) to yield of Heartwood
Vellore West Division.



NOTE.—The curve from 0″ to 6″ has been filled in by continuing the rest of the curve.

194. *Yield of heartwood per acre.*—The average annual yield of heartwood per acre obtained during the period of the last working plan 1915–16 to 1935–36, works out to :—

	LB.	OZ.
Alangayam range	0	13
Tiruppattur range	1	10
Chengam range	1	15

In working out these averages non-sandal areas, which were included in coupes for convenience of working, have been omitted.

195. *Mortality in sandal.*—The following statement gives the mortality per cent of sandal in its transition from one diameter class to another. The number of living trees in each diameter class [column (2)] has been extracted from Appendix VI (Reserves only) of Mr. C. C. Wilson's Sandalwood Working Plan for the Javadi and Yelagiri Hills. The periods of transition from one diameter class to another (column 4) have been obtained from graph No. 4 in Appendix X of the same plan.

Diameter classes (in inches).	Number of living trees in the diameter class.	Gross mortality in transition to higher diameter class.	Period of transition from one diameter class to the next (years).	Annual mortality in transition.	Annual mortality per cent expressed against lower diameter class.
(1)	(2)	(3)	(4)	(5)	(6)
3	60,969				
		19,493	4½	4,332	7·11
4	41,476				
		14,801	4	3,700	8·92
5	26,675				
		7,403	4	1,851	6·94
6	19,272				
		8,694	4	2,174	11·28
7	10,578				
		3,303	4½	734	6·94
8	7,275				
		2,829	5½	514	7·07
9	4,446				
		2,225	8	278	6·25
10	2,221				
		389	11	35	1·58
11	1,832				

The uniformity in the annual mortality per cent throughout the period, with the exception of that which occurs during the transition from the 6 to 7 and from the 10 to 11 inches diameter classes, is striking. The mortality during the transition from 10 to 11 inches should not be regarded as accurate as the length of the corresponding transition period, 11 years, is only an interpolation from the incomplete end of the age-diameter curve. The comparatively high mortality per cent in the 6 to 7 inches transition period is curious and corresponds with a similar rise in the Salem North and Vellore East divisions.

SECTION 2.—FUEL.

196. *Rotation.*—An attempt was made in the Vellore East division, where the forests are similar to those in Vellore West, to collect figures as a guide for the determination of the correct fuel rotation. The heights and girths of some 5,000 coppice shoots of representative species in 62 coupes, in four localities covering a range of ages from 15 to 35 years, were measured. The result led to no definite conclusion, but the rotation was increased from 30 to 40 years on general grounds.

SECTION 3.—BAMBOOS.

197. *Felling cycle.*—A series of experiments with *Dendrocalamus strictus* carried out in accordance with the prescriptions of Mr. K. R. Venkataramana Ayyar's working plan (1920) for the then South Vellore division (C.C.P. No. 3, dated 22nd January 1920) yielded the results noted in the statements below. Observations were made over a period of eight years.

A. General observations.

Method of treatment.	Felling cycle years.	Average number of culms produced every year.	Total number of culms produced during the year.	Number of new culms available for felling.	Average annual yield of culms per clump.	Remarks.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
All culms over one year old were cut.	2	2	4	2	1	Harmful effect on clumps; many died after 10 years. Culms of poor quality.
	3	2	6	4	1·3	Culms better and clumps healthier.
	4	1·5	6	4·5	1·1	Clumps died early.
In one half of the clump all culms over one year old were cut and none in the other.	2	2	4	2/2= 1	0·5	Culms long lived and healthy. Clumps not much damaged.
	3	4	12	8/2= 4	1·3	Clumps healthy.
	4	3	12	9/2= 4·5	1·1	Do.
Half the number of culms, evenly over the whole clump were cut.	2	4	8	4/2= 2	1·3	Clumps not healthy.
	3	4	12	8/2= 4	1·9	Clumps healthy.
	4	5	20	15/2= 7·5		Do.

B. Longevity of Culms.

Cycle years.	Life of culms, years.	
	Maximum.	Minimum.
(1)	(2)	(3)
2	12	4
3	Less than 12	4
4	Less than 12	Less than 4.

198. It is seen that a two-year felling cycle is undesirable. The three-year cycle appears to give consistently high yields under all the methods of treatment and it is interesting to note that in all cases the same outturn has been obtained under this cycle. Under the method of felling half the number of culms that are more than a year old, and leaving the remainder evenly distributed in the clump, the maximum outturn appears to be realized on a four-year cycle, but against this, the table of Longevity of Culms shows that the minimum life of a culm on the four-year cycle is less than four-years, so that a proportion of the culms must be expected to be dead before they are cut. With a three-year cycle this would not be the case. It thus seems that, all things considered, a three-year cycle is the most suitable.

PART II.

FUTURE MANAGEMENT DISCUSSED AND PRESCRIBED.

CHAPTER I.—BASIS OF PROPOSALS.

SECTION 1.—GENERAL OBJECTS OF MANAGEMENT.

199. *The objects of management* may be summarized as follows :—

(i) To regularize the realization of revenue, so as to obtain as far as possible an equal annual yield by the systematic exploitation of the existing crop of sandal, bamboos, fuel and minor forest produce.

(ii) To exploit all dead sandal trees at regular intervals so as to obtain the maximum yield of heartwood per acre.

(iii) To regulate the supply of fuel, green leaf manure and bamboos with reference to the requirements of neighbouring towns and villages.

(iv) To make available for agricultural and domestic needs such small timber as the forests, in their present state, are capable of producing.

(v) To control and facilitate grazing so that the maximum protection to the forest is afforded without prejudice to the requirements of the population.

(vi) To protect and, wherever possible, to improve the existing growing stock, whether of sandal or other species, by such silvicultural operations as are indicated and are practicable.

(vii) To realize such other revenue as may be legitimately obtained from the forest.

200. Thus, it is seen that the prescriptions which follow provide for the exploitation, conservation and improvement of the forest and, at the same time, seek to discharge the obligations of the state to the people.

SECTION 2.—METHODS OF TREATMENT TO BE ADOPTED.

201. The following methods of treatment will be adopted in the various types of forest :—

(i) *Sandal.*—A modification of the Selection System involving the extraction of dead trees only.

(ii) *Fuel and small timber.*—Simple coppice with reservation of sound minor forest produce yielding trees. The rotation will be 40 years. Blanks and poorly stocked areas will be artificially regenerated with suitable species.

(iii) *Bamboos.*—The bamboo areas will be worked on a 3-year rotation. The system of triennial leases now in force has much in its favour, but in certain circumstances annual leases are preferable. The decision as to which should be adopted in the future will be left to the District Forest Officer who should consult the Conservator before making a change in this respect. When however flowering commences in any series it will be better if the coupes are sold annually and selected according to the intensity of flowering. Coupes which have flowered will be excluded from working until the new crop becomes saleable. The District Forest Officer will be given the discretion of selling bamboos departmentally should there be no competition at the sales owing to a small number of bidders, or if he is opposed by an organized ring.

(iv) *Minor forest produce.*—The present system of exploitation through contractors will be the general rule. Departmental working may however be resorted to, with the sanction of the Conservator, whenever such a procedure seems necessary or expedient.

(v) *Green leaf manure.*—Coupes will be formed for the removal of green leaf manure, and they will, if possible, be leased to contractors, who will sell permits for cart-loads or head-loads at rates not exceeding certain maxima which will be fixed by the Conservator of Forests.

(vi) *Grazing.*—Grazing will continue on payment of the rates sanctioned by Government from time to time. Provision will be made to meet the full grazing requirements of villages dependent on the reserves for pasture.

SECTION 3.—WORKING CIRCLES, THEIR AREA AND DISTRIBUTION—REASONS FOR THEIR CONSTITUTION.

202. In pursuance of the objects of management set forth in Section 1 above, five working circles have been prescribed. They are :—

(i) *The Sandal Working Circle*, 100,905 acres in extent, includes all the sandal bearing areas of the division, with the exception of 2,232 acres where the sandal is growing under obviously unfavourable conditions and is not likely to produce sufficient heartwood to render exploitation profitable.

(ii) *Fuel and Small Timber Working Circle*, 57,174 acres in extent, includes all accessible fuel areas within economic working distance of local markets.

(iii) *The Bamboo Working Circle*, 159,206 acres in extent, covers the whole of the bamboo forest in the division.

(iv) *The Minor Forest Produce Working Circle*, covers the whole division. In it provision is made for Green Leaf Manure working.

(v) *Grazing Working Circle* covers the whole division. A small area will however be closed to grazing annually as grazing will not be allowed in fuel coupes in the year of felling and for six years thereafter.

SECTION 4.—PERIOD OF WORKING PLAN AND NECESSITY FOR INTERMEDIATE REVISION.

203. *The period covered by this plan* is ten years, from the 1st of April 1937 to the 31st of March 1947.

CHAPTER II.—WORKING PLAN FOR THE SANDAL WORKING CIRCLE.

SECTION 1.—GENERAL CONSTITUTION OF THE WORKING CIRCLE, AREA AND CHARACTER OF THE VEGETATION.

204. *General constitution and area.*—The Sandal Working Circle includes all sandal bearing areas in the reserves and unreserves of the division and the following survey fields :—

(*a*) *All fields assigned on patta.

(i) On the Tenmalais (Chengam Javadis) irrespective of the date of assignment.

(ii) On the Javadis subsequent to June 1907 [G.O. No. 1462, Revenue, dated 10th June 1907, Appendix II (*a*)].

(ii) On the Yelagiris subsequent to April 1918 [B.P. Forest No. 134, Miscellaneous, dated 11th April 1918, Appendix II (*b*)].

(*b*) Those fields assigned on patta on the Javadis and Yelagiris prior to the dates noted above, in which Government has acquired by purchase the ownership of the sandalwood trees.

(*c*) Fields which have been surveyed for future assignment up to 31st May 1936† and all porambokes, wherever situated.

205. The greater portion of the working circle lies on the Javadi plateau. The aggregate area is 100,905 acres, constituted as follows :—

Range.	Area in acres.		
	Reserves and un-reserves.	Survey fields or village sandal.	Total.
(1)	(2)	(3)	(4)
Alangayam	10,644	710	11,354
Tiruppattur	49,879	9,426	59,305
Chengam	20,738	9,508	30,246
Total ..	**81,261**	**19,644**	**100,905**

* See also paragraph 31, where the legal position of Government with reference to sandalwood trees growing on patta fields is discussed.

† The date of completion of sandal stock-mapping.

206. *Character of the vegetation.*—The composition and condition of the crop have been fully described in Chapter II of Part I, so a few brief remarks here with reference to sandal will suffice.

207. The sandal on the Javadis is generally well grown and healthy, while that on the Yelagiris is of a much poorer quality. On the Yelagiris spike is prevalent in epidemic form, 2,367 acres out of 5,151 acres of sandal bearing area being infected at the time of writing.

208. On the Javadis the best growth of sandal is often found in, or on the fringes of, high bamboo forest—*Bambusa arundinacea*, the largest trees occurring near Melpet on the Tenmalais.

209. Mention has been made in paragraph 52 above of the sandal which grows scattered in small patches in plain forests, and which probably owes its origin to the occasional distribution of seed by forest guards during the course of patrolling. As such sandal is growing under obviously unfavourable conditions it is unlikely that it will produce sufficient heartwood to render exploitation profitable. The better of such patches (the area excluded being 2,232 acres) have however been included in the Sandal Working Circle and in these cases the Sandal and Fuel Working Circles overlap. This overlapping is shown on the Key Map by burnt sienna lines over a yellow wash and can be studied further by placing the sandal and fuel working maps side by side. Where this overlapping occurs the development of the sandal should be carefully watched and at the next revision of the plan, if conditions justify it, fuel working should be discontinued and preference given to sandal.

SECTION 2.—ANALYSIS AND VALUATION OF THE CROP.

210. *Reserves and unreserves.*—The sandal bearing areas in the reserves and unreserves were stockmapped by an adaptation of the timber cruising method. The area was divided into a number of compartments by means of natural or permanent artificial boundaries. Compartments were subdivided into strips, 5 chains wide, running either north and south or east and west. Strip lines were not cleared, but were indicated on the ground by blazing trees and cutting occasional bushes so that they could be followed without difficulty. All sandal trees above the height of a man, 5 feet 6 inches, were then counted along each strip and marked in on field sheets (enlarged to a scale of 16 inches to 1 mile from 4 inches Survey of India maps) at intervals of 10 chains. The stockmapping thus proceeded in small units of 5 acres each. The following density classes were shown :—

Over 30 trees per acre.
21 to 30 ,,
11 to 20 ,,
6 to 10 ,,
5 trees and below per acre.

These details were reduced and transferred to a blank set of 4-inch Survey of India maps which have been filed for permanent record.

211. *Survey fields.*—As each survey field in which the sandalwood trees are the property of Government will be visited annually, it was not considered necessary to enter into an analysis of the sandal growing in them. Further, such analysis would have entailed much time and considerable expenditure.

SECTION 3.—METHOD OF TREATMENT.

212. *Silvicultural system.*—The only valuable part of a sandal tree is the scented heartwood, which is used chiefly for the distillation of sandal oil. The oil content is higher in the roots than in the aerial portions of the tree, so exploitation necessarily involves uprootal. The production of heartwood commences at an early age and marketable heartwood may generally be found in trees of 6 inches in girth and over. As the value of heartwood lies in its oil content, the size of the trees extracted is of no practical importance, except that it may be taken as an indication of the probable outturn of heartwood.

213. Hitherto only dead sandal trees have been extracted. The necessity for removing living trees need not be considered at present as the natural mortality in all girth classes produces a yield of heartwood which is sufficient to meet the demand. If however it is found that the mortality per cent continues to decrease, it may become necessary at the next revision of the plan to prescribe the extraction of living trees on the basis of an exploitable size.

214. The system applied will be a modification of the Selection system and will consist in the removal of dead trees only, and in the maintenance and improvement of the growing stock by rigid protection and cutting climbers where necessary.

215. *Felling cycle, (a) Reserves and Unreserves.*—The felling cycles prescribed in the last working plan, viz., three years for the Yelagiris and six years for the Javadis—will continue. The reason for prescribing a shorter felling cycle on the Yelagiris originally was probably the comparatively small area under sandal. Now, an additional reason for continuing this shorter rotation is that spike disease is prevalent in the area in epidemic form (vide paragraphs 75 and 76 above).

(*b*) *Survey fields.*—Survey fields will be visited annually and dead trees extracted. The reason for this is to ensure the prompt extraction of trees which are, for the most part, growing in cleared fields, either under cultivation or lying fallow. Each forester will be responsible for all fields lying within his jurisdiction.

216. *Division of reserves and unreserves into felling series.*—The reserves and unreserves have been divided into ten felling series, two of which are situated on the Yelagiris and eight on the Javadis. Owing to the patchy distribution of sandal and the need for adopting as far as possible natural features for coupe boundaries, it has been necessary to include within the limits of felling series considerable areas containing no sandal. To facilitate working, the extent and distribution of the species is shown on the sandalwood working map. Details of area are set forth in the following statement :—

Serial number.	Felling series.	Range.	Area in acres.		
			Sandal.	Non-sandal.	Total.
(1)	(2)	(3)	(4)	(5)	(6)
1	Athanavoor	Alangayam	1,863	564	2,427
2	Kottur	Do.	3,288	1,356	4,644
3	Vasantapuram	Do.	2,306	1,914	10,791
		Tiruppattur	4,028	2,543	
4	Kambugudi	Do.	3,740	1,470	5,210
5	Mambakkam	Do.	5,620	3,550	9,170
6	Pudur	Do.	6,963	2,914	9,877
7	Puliyur	Do.	9,389	9,015	18,404
8	Palamarathur	Chengam	5,096	3,447	8,543
9	Melpattu	Do.	4,520	1,622	6,142
10	Nellivoi	Do.	3,892	2,161	6,053
		Total	**50,705**	**30,556**	**81,261**

NOTE.—Felling series 1 and 2 are situated on the Yelagiris, while 3 to 10 are on the Javadis.

217. *Allocation of coupes.*—Each felling series on the Yelagiris has been divided into three coupes, while those on the Javadis are composed of six coupes each. One coupe in each felling series will be worked annually. The old division into coupes has as far as possible been adhered to. At the same time an endeavour has been made to divide up each series with reference to density classes so that the coupes in it may, theoretically, be equiproductive. Experience, however, shows that this state cannot be attained in practice, the yield varying for even two successive extractions in the same coupe.

218. *Village sandal.*—The numbers, areas, situation and classification of the survey fields in which the sandalwood trees are the property of Government are given, by ranges, in Appendix VI. The outer boundary of each group of fields constituting a village, or two or three villages together, is shown on the sandal working map, and the relative positions of the fields in each group can be ascertained from the revenue village maps maintained in the District Forest Office for the Tiruppattur range and by the Revenue Department for Alangayam and Chengam.

219. The outer boundaries of the fields were not surveyed by the working plans staff but have been adopted from village maps in the case of fields already assigned on patta and from field sketches obtained from the Madras Survey Department for fields recently surveyed for future assignment.

220. It should however be noted that there are discrepancies in the village maps and in many cases the common boundary between two villages, or two adjacent groups of fields, is shown differently on each of the two relative maps. Similarly, in the sketches obtained from the Madras Survey Department, there are cases where the common boundaries between recently surveyed fields and those already assigned do not agree. For these reasons, the sandal working map, even though it is as accurate as possible under the circumstances, is not correct in all cases. It is intended to indicate the positions of the several village sandal areas, relative to the rest of the forest, more detailed information being available in the revenue village maps.

221. The discrepancies referred to above are now being set right by the Survey Department, but the results of their work will not become available until late in 1938, or early 1939. Therefore, it is not considered worth while, at this stage, to prepare a separate

village sandal working map ; but it is suggested that, when the Survey Department has completed its work, the existing revenue village may be corrected, and where necessary the sandal working map also.

222. *Calculation of the yield.*—The annual yield depends on the number of trees which die each year and the quantity of heartwood obtained from them. It is seen from the statement at paragraph 185 that in every felling series, the annual yield, representing the annual mortality per cent over areas laid out with a view to equi-productivity, is extraordinarily variable. On the Yelagiris this state of affairs is made worse by the prevalence of spike. The quantity of heartwood obtained from each tree is also very variable. Thus, it would be useless to estimate the future yield from the mortality per cent or to attempt to estimate it for each felling series separately or even for the division, as a whole, annually. All that can be done is to state that the annual yield for the division will be about 62 tons, i.e., the average annual yield for the 21 year period ending 1935–36 (paragraphs 185 and 186 above).

SECTION 4.—METHOD OF EXECUTING FELLINGS.

223. *Regulation of operations.*—All operations connected with the exploitation of sandalwood will be carried out departmentally. One coupe in each felling series will be worked every year. Each survey field, in which sandalwood trees are the property of Government, will be examined annually and dead trees extracted. The sequence in which coupes are to be worked is shown on the sandal working map and the years of working are given in the tabular statement of fellings in section 5 below.

224. *Clearing coupe boundaries.*—Natural and permanent artificial features and lines already existing on the ground have, as far as possible, been selected for coupe boundaries. Where this has not been done, lines 10 feet wide will be cleared in the year prior to felling. This will cost about Rs. 6–8–0 per mile and the annual expenditure will vary from year to year. In the second felling cycle reclearing will be done at a cost not exceeding Rs. 3 per mile. The following statement gives the length to be cleared each year during the working plan period and the estimated expenditure thereon :—

Year.	Range.	Felling series.	Coupe number.	Length to be cleared. Miles.	Length to be cleared. Rate per mile.	Estimated cost. Coupe.	Estimated cost. Range.	Estimated cost. Division.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
					RS. A.	RS. A.	RS. A.	A.
1937–38	Alangayam	Kottur	III	2·0	6 8	13 0	..	..
		Vasanthapuram	V	2·1	6 8	13 10	26 10	..
	Tiruppattur	Do.	V	2·4	6 8	15 10	..	..
		Kambugudi	V	2·4	6 8	15 10	..	..
		Mambakkam	V	2·5	6 8	16 4	..	..
		Puliyur	V	0·7	6 8	4 9	52 1	..
	Chengam	Melpattu	V	1·6	6 8	10 6	10 6	89 1
1938–39	Alangayam	Athanavoor	I	3·8	6 8	24 11	..	..
		Kottur	I	0·4	6 8	2 10	..	..
		Vasanthapuram	VI	3·8	6 8	24 11	52 0	..
	Tiruppattur	Kambugudi	VI	1·6	6 8	10 6	..	..
		Mambakkam	VI	3·5	6 8	22 12	..	..
		Pudur	VI	5·2	6 8	33 13	..	..
		Puliyur	VI	0·9	6 8	5 14	72 13	..
	Chengam	Palamarathur	VI	1·6	6 8	10 6	10 6	135 3
1939–40	Alangayam	Athanavoor	II	1·6	3 0	4 13	..	..
		Kottur	II	3·4	3 0	10 3	15 0	..
	Tiruppattur	Kambugudi	I	1·0	6 8	6 8	..	..
		Mambakkam	I	1·8	6 8	11 11	..	..
		Puliyur	I	0·6	6 8	3 14	22 1	..
	Chengam	Palamarathur	I	0·7	6 8	4 9	..	..
		Melpattu	I	1·5	6 8	9 12	..	..
		Nellivoi	I	2·8	6 8	18 3	32 8	69 9
1940–41	Alangayam	Kottur	III	2·0	3 0	6 0	6 0	..
	Tituppattur	Vasanthapuram	II	1·1	6 8	7 2	..	..
		Kambugudi	II	0·8	6 8	5 3	..	..
		Puliyur	II	1·4	6 8	9 2	21 7	..
	Chengam	Palamarathur	II	0·7	6 8	4 9	..	..
		Melpattu	II	2·8	6 8	18 3	22 12	50 3
1941–42	Alangayam	Athanavoor	I	3·8	3 0	11 6	..	..
		Kottur	I	0·4	3 0	1 3	12 9	..
	Tiruppattur	Vasanthapuram	III	0·5	6 8	3 4	..	..
		Kambugudi	III	2·3	6 8	14 15	..	..
		Pudur	III	0·5	6 8	3 4	21 7	..
	Chengam	Melpattu	III	1·0	6 8	6 8	..	..
		Nellivoi	III	1·4	6 8	9 2	15 10	49 10
1942–43	Alangayam	Athanavoor	II	1·6	3 0	4 13	..	..
		Kottur	II	3·4	3 0	10 3	15 0	..
	Tiruppattur	Kambugudi	IV	0·7	3 0	2 2	..	..
		Puliyur	IV	1·4	3 0	4 3	6 5	..
	Chengam	Palamarathur	IV	2·1	3 0	6 5	..	..
		Melpattu	IV	2·7	3 0	8 2	..	..
		Nellivoi	IV	2·5	3 0	7 8	21 15	43 4
1943–44	Alangayam	Kottur	III	2·0	3 0	6 0	..	..
		Vasanthapuram	V	2·1	3 0	6 5	12 5	..
	Tiruppattur	Do.	V	2·4	3 0	7 3	..	..
		Kambugudi	V	2·4	3 0	7 3	..	..
		Mambakkam	V	2·5	3 0	7 8	..	..
		Puliyur	V	0·7	3 0	2 2	24 0	..
	Chengam	Melpattu	V	1·6	3 0	4 13	4 13	41 2
1944–45	Alangayam	Details as for 1938–39			3 0	..	24 0	..
	Tiruppattur	Do.			3 0	..	33 10	..
	Chengam	Do.			3 0	..	4 13	62 7
1945–46	Alangayam	Details as for 1939–40			3 0	..	15 0	..
	Tiruppattur	Do.			3 0	..	10 3	..
	Chengam	Do.			3 0	..	15 0	40 3

225. *Exploitation.*—Extraction will be confined to dead trees, both standing and fallen including all stumps and roots. All green fallen or broken stems and branches will also be removed. Details of the procedure to be followed in cleaning, classification and disposal are contained in the Standard Sandalwood Extraction Rules.

226. *Minimum exploitable size.*—As the heartwood content of individual trees is so very variable it is considered inadvisable to prescribe a minimum girth limit for extraction. Trees which are found to contain no heartwood should not be despatched to sale depots and no root that contains heartwood of more than the size of half a rupee should be left in the ground.

227. *Restriction of output.*—As exploitation will be regulated entirely by area no limit is imposed on the annual output. Should, however, market conditions indicate a restriction, the necessary regulation will be issued under the orders of the Chief Conservator of Forests.

SECTION 5.—TABULAR STATEMENT OF FELLINGS TO BE MADE.

228. *Coupes.*—The following statement shows the coupes to be worked each year in the different felling series.

Year.	Coupe number.	Alangayam range. Athanavoor felling series. Area (acres). Sandal.	Non-sandal.	Kottur felling series. Area (acres). Sandal.	Non-sandal.	Coupe number.	Chengam range. Pelamarathur felling series. Area (acres). Sandal.	Non-sandal.	Melpattu felling series. Area (acres). Sandal.	Non-sandal.	Nellivoi felling series. Area (acres). Sandal.	Non-sandal.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1937–38	II	473	15	1,320	358	IV	1,334	680	637	518	572	182
1938–39	III	570	52	1,210	925	V	600	50	524	64	642	498
1939–40	I	820	497	758	73	VI	615	795	680	164	563	500
1940–41	II	473	15	1,320	358	I	1,124	780	1,004	404	860	527
1941–42	III	570	52	1,210	925	II	700	729	805	307	645	186
1942–43	I	820	497	758	73	III	723	413	870	165	610	268
1943–44	II	473	15	1,320	358	IV	1,334	680	637	518	572	182
1944–45	III	570	52	1,210	925	V	600	50	524	64	642	498
1945–46	I	820	497	758	73	VI	615	795	680	164	563	500
1946–47	II	473	15	1,320	358	I	1,124	780	1,004	404	860	527

Year.	Coupe number.	Tiruppattur range. Vasanthapuram felling series. Area (acres). Sandal.	Non-sandal.	Kambugudy felling series. Area (acres). Sandal.	Non-sandal.	Mambakkam felling series. Area (acres). Sandal.	Non-sandal.	Pudur felling series. Area (acres). Sandal.	Non-sandal.	Puliyur felling series. Area (acres). Sandal.	Non-sandal.	Division. Area (acres.) Sandal.	Non-sandal
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
1937–38	IV	1,010	785	356	182	580	..	943	130	1,330	3,340	8,555	6,190
1938–39	*V	1,240	1,042	660	261	834	191	674	296	1,487	1,195	8,441	4,574
1939–40 ..	† VI	1,947	1,626	486	190	867	612	1,315	827	1,558	2,822	9,609	8,106
1940–41	I	710	516	794	382	1,082	1,886	1,372	778	2,161	1,280	10,900	6,926
1941–42	II	699	284	600	215	827	42	1,465	603	1,130	305	8,651	3,648
1942–43	III	728	204	844	240	1,430	819	1,194	280	1,723	73	9,700	3,032
1943–44	IV	1,010	785	356	182	580	..	943	130	1,330	3,340	8,555	6,190
1944–45	*V	1,240	1,042	660	261	834	191	674	296	1,487	1,195	8,441	4,574
1945–46	† VI	1,947	1,626	486	190	867	612	1,315	827	1,558	2,822	9,609	8,106
1946–47	I	710	516	794	382	1,082	1,886	1,372	778	2,161	1,280	10,900	6,926

NOTE.—* Of this coupe, 359 acres of sandal and 288 acres of non-sandal area lie in the Alangayam range.
† The whole coupe lies in the Alangayam range.

229. *Survey fields.*—Survey fields will be examined annually and dead trees extracted. A list of fields is given in Appendix VI.

SECTION 6.—SUBSIDIARY SILVICULTURAL REGULATIONS.

230. *Tending.*—Hitherto tending has been done at the time of enumeration, the expenditure incurred being about half anna per acre. The total amount involved has not been very large, but as thousands of acres are gone over every year it is not negligible. It is believed that sandal can push its way through all ordinary cover and the operation is often a waste of time and money. The subject was discussed at the last Conservator's Conference and the following resolution passed.

Resolution VII. Tending of sandal.—' Resolved that in many sandal forests tending is unnecessary, though in certain cases some form of tending is advisable, for instance, cutting climbers where they are harmful ; and in the preparation of working plans for sandal districts special prescriptions must be included as to the extent of tending that is required and the areas where it should be done, if any.'

231. No general tending is therefore prescribed but climber cutting will be done at the time of marking and enumerating dead trees for extraction. Without stock-mapping this not possible to indicate areas where climber cutting will be required. In financial

forecast provision has been made on the basis that one half of the sandal bearing area of each coupe will need climber cutting. The operation will however not be done in areas where there is spike.

232. *Artificial regeneration.*—Generally speaking no propagation work is required. The forests as a whole are likely to be over producing sandal and the energies of the staff can be better employed in the general protection of existing growth and in the careful and thorough extraction of dead trees than in laying out artificial propagation centres.

SECTION 7.—OTHER REGULATIONS.

233. *Fire protection.*—The Sandal Working Circle is so extensive that the question of the general fire protection of sandal areas is the same as that of the division as a whole and is dealt with in Chapter VIII (Miscellaneous Regulations). Special provision must however be made for sandal growing in dense bamboo forest on the Javadi plateau, where the bamboo has begun to flower and die. There is grave danger, should fire get into such areas, of the sandal trees being very severely damaged, or killed. Many of the large sandal trees date back beyond the life of the present bamboo crop and there is evidence to show that fires must have been successfully excluded when the last flowering of bamboo took place and this is confirmed by the statements of local ' malayalis ' who recollect that severe fires occurred on the outer slopes but that none entered that plateau.

234. The overlapping of sandal and bamboo is shown on the key map accompanying this plan and can be further studied in the sandal working map, where the density of both sandal and bamboo, and centres of bamboo flowering, are given. It is not possible at this stage to frame hard and fast prescriptions for the protection, from fire, of sandal in such localities ; but the bamboo flowering centres should be carefully watched and the District Forest Officer may at his discretion undertake such measures of protection as he considers necessary at a cost not exceeding Rs. 50 annually. If he considers expenditure necessary above this limit he should consult the Conservator.

235. *Measures for the prevention of the spread of spike disease.*—As already stated in paragraphs 75 and 76 above spike is prevalent in epidemic form over an area of 2,367 acres on the Yelagiris, at the time of writing, while 240 acres on the Javadis, near Thagarakuppam, are infected. It is feared that the disease has taken too strong a hold on the Yelagiris and any control measures which may be taken will very likely be ineffective. With reference to the Javadis however, the importance of detecting fresh attacks immediately they occur, and reporting them at once, should be impressed on all subordinates and prompt steps for controlling the spread of the disease should be taken in accordance with the Standing Orders communicated in Chief Conservator's Proceedings No. 260, Press, dated 27th June 1936. A copy of these orders is given in Appendix VII.

236. *Retail sales of sandalwood.*—The system of selling large lots of sandalwood in auction precludes local people from obtaining small quantities readily, and may possibly, be an incentive to theft from the forest. It is therefore proposed that the practice of selling retail, in the District Forest Office, small billets for bona fide domestic use should continue. It is further proposed that the Range Officers, Alangayam, Chengam and Krishnagiri should also be authorized to sell limited quantities.

237. Billets will be from 9 to 12 inches long, and not more than 12 inches in girth. No billet will weigh more than 5 lb. as this is the maximum weight of sandalwood, intended for domestic use, which can be carried without a pass. Billets will be serially numbered and hammer marked at both ends. They will be weighed before they leave the sale depot and the weight of each recorded on it in indelible pencil. Prices will be calculated according to these weights at the rate per ton fixed by the Chief Conservator of Forests, from time to time. It is suggested that the stock with the Head Clerk, District Forest Office, and with the Range Officers be limited to 100 billets each. Suitable registers will be maintained for such retail sales.

CHAPTER III.—WORKING PLAN FOR THE FUEL AND SMALL TIMBER WORKING CIRCLE.

SECTION 1.—GENERAL CONSTITUTION OF THE WORKING CIRCLE, AREA AND CHARACTER OF THE VEGETATION.

238. *General constitution and area.*—The Fuel and Small Timber Working Circle is 57,174 acres in extent and includes the areas already set apart for fuel working under existing working plans and schemes, and such new areas where a demand is likely to arise. Rocky hill tops and steep hill sides, previously included, have now been omitted.

239. *Character of the vegetation.*—The forest is of the mixed deciduous type. The density varies from place to place, often degenerating into sparse bushes with an occasional ill-shaped tree. The height growth is very poor throughout the working circle and the trees much branched and capable of yielding small timber useful only for building huts and making agricultural implements. The species of which the forest is composed have already been given in Chapter II of Part I.

SECTION 2.—METHOD OF TREATMENT.

240. *Silvicultural system.*—The system applied will be Simple Coppice with the reservation of sandal, minor forest produce and bark yielding trees. Coppice regrowth will be supplemented by rab sowing as prescribed in a later paragraph.

241. *Division of the area into felling series.*—The working circle is divided into twenty-two felling series. Owing to the present lack of adequate demand and the high cost of transport from the more distant localities, only half this number are prescribed as Regular series, while the remaining eleven will be treated as Reserve series and will be available for working should market conditions improve and a demand arise. The area and situation of each series is set forth in the statement below, and the boundaries have been shown in the fuel working map.

Range.	Felling series.			
	Serial number.	Name.	Area in acres.	Reserve or reserves in which situated.
(1)	(2)	(3)	(4)	(5)
		(a) Regular series.		
Alangayam	1	Alangayam	2,950	Alangayam.
	2	Baddakuppam	3,685	Do.
Tiruppattur ..	3	Chinnasamudram South ..	957	Chinnasamudram.
	4	Andiappanur	1,678	Andiappanur
Changam	5	Anandavadi East	2,851	Anandavadi.
	6	Sorapanandal	1,641	Ponnaiyar.
Krishnagiri	7	Naralapalli	2,536	Naralapalli.
	8	Maharajagadai East	5,205	Maharajagadai.
	9	Maharajagadai West	4,656	Maharajagadai.
	10	Bargur	1,478	Bargur.
	11	Nandibanda	1,481	Nandibanda.
		(b) Reserve series.		
Alangayam	1	Narasingapuram	4,224	Narasingapuram and Kalarapatty.
	2	Pungulam	4,117	Pungulam
Tiruppattur ..	3	Govindapuram	1,880	Govindapuram.
	4	Singarapettai	2,493	Singarapettai.
	5	Chinnasamudram North ..	1,825	Chinnasamudram.
Chengam	6	Paramanandal	1,049	Paramanandal.
	7	Mudanai East	1,901	Mudanai.
	8	Mudanai West	2,016	Do.
	9	Anandavadi West	3,509	Anandavadi.
	10	Ravanadavadi	1,778	Ravandavadi.
Krishnagiri	11	Kottur	3,264	Kottur.

242. For the information of inspecting officers, and to facilitate the selection of coupes in the Reserve felling series, the boundaries of coupes which have been worked in the past have been shown in the fuel working map.

243. *Rotation.*—An attempt has been made in paragraphs 232 and 233 of the Vellore East Working Plan to determine a suitable rotation for fuel working. The results obtained show that 40 years appears to be the most suitable. As the fuel forests of the Vellore East and Vellore West divisions are almost identical, a rotation of 40 years is also prescribed in this working plan.

244. *Size and allocation of coupes.*—The average size of the coupe in each of the regular felling series has been obtained by dividing the area of the series by the number of years in the rotation. As the period of this plan is ten years, coupes for only the next ten years working have been selected in the regular felling series and marked in on the fuel working map. The selection of coupes in the reserve felling series has been left to the discretion of the District Forest Officer as the position and size in each case will depend on the locality in which a demand arises, but in no case will the size of the coupe exceed 1-40th the area of the felling series. The areas of the reserve series are to be found in the statement in paragraph 242 above.

245. *Calculation of the yield.*—The yield of fuel and small timber in tons per acre based on the actuals of the last eleven years working (1924–25 to 1934–35), has been calculated

for each felling series separately, and the average obtained has been taken as the anticipated yield of fuel and small timber per acre and recorded in column 3 of the following statement :—

Felling series.	Anticipated yield of fuel and small timber in tons per acre.	Area of coupe in acres.									
		I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(8)	(10)	(11)	(12)
(a) Regular series.											
ALANGAYAM RANGE.											
1 Alangayam	11·8	72	73	73·5	72·5	72·5	77	74	77	75	76
2 Baddakuppam	4·8	93	93	90	92	92·5	93	94	94·5	92	93
TIRUPPATTUR RANGE.											
3 Chinnasamudram South ..	2·3	24	25	22·5	25	24·5	22·5	24	23	23·5	24
4 Andiappanur	1·3	42	42	42	42	42	42	40	41	43	43
CHENGAM RANGE.											
5 Anandavadi East	1·9	71	70	71	72	70	72	72	70	72	72
6 Sorappanandal	2·1	41	41	42·5	42·5	45	43	43	40	38	40
KRISHNAGIRI RANGE.											
7 Naralapalli	3·7	62	61	61	62	63	64	61	64	64	64
8 Maharajagadai East ..	3·2	131	130	130	130	132	128	132	131	130	128
9 Maharajagadai West ..	4·0	110	115	117	117	116	118	117	117	115	117
10 Bargur	4·1	35	36	36	35	37	37	35	36	35	38
11 Nandibanda	2·5	37	38	37	37	37	37	37	37	38	35
(b) Reserve Series.											
ALANGAYAM RANGE.											
1 Narasingapuram	2·4	Coupes not allocated.									
2 Pungulam	4·1										
TIRUPPATTUR RANGE.											
3 Govindapuram	1·8	Coupes not allocated.									
4 Singarapettai	4·9										
5 Chinnasamudram North ..	2·8										
CHENGAM RANGE.											
6 Paramanandal	2·4	Coupes not allocated.									
7 Mudanai East*	3·3										
8 Mudanai West	3·3										
9 Anandavadi West* ..	1·9										
10 Ravandavadi*	3·5										
KRIHSNAGIRI RANGE.											
11 Kottur	0·25	Coupes not allocated.									

Note.—*New series in which the anticipated average yield per acre has been taken as equal to that of the adjoining existing series, except in the case of Ravandavadi series where the yield has been estimated at 3·5 tons per acre.

SECTION 3.—METHOD OF EXECUTING THE FELLINGS.

246. *Regulation of operations.*—One coupe in each of the regular felling series should there be a demand, will be put up for sale each year. The fuel working map indicates the sequence in which the coupes in the regular felling series are to be worked. Definite coupes have not been allotted to definite years of working. Thus, where there is no demand and a coupe is not sold, confusion owing to arrears will not arise and no deviation from the working plan is involved. The fact with reasons for not working should however be recorded in the control form.

247. *Laying out and demarcation of coupes.*—The coupes to be sold in the regular felling series* will be surveyed and demarcated in the year preceding that of felling. Economy in this work, is enjoined, and an intelligent use where possible of streams and other natural boundaries rather than a *slavish* adherence to the lines on the map. Petty differences between prescribed and surveyed areas, unless involving a total accumulated difference of more than 10 per cent are not deviations requiring sanction.

**Note.*—In the reserve series, survey of coupes will be made at the discretion of the District Forest Officer when there is a likelihood of sale.

248. *Agency of felling.*—Felling will invariably be carried out through the agency of contractors and coupes sold in public auction every year in sufficient time to permit of purchasers beginning felling on, or as soon as possible after, the 1st of April. Where there is a demand for green leaves for manure, coupes will be sold three months in advance and contractors permitted to cut and supply manure leaf therefrom before felling begins (G.O. Ms. No. 1573, Development, dated 14th July 1937). In cases in which the coupe is sold three months in advance, the agreements may provide for a suitable delay in initial payment.

249. *Area remaining unfelled on the termination of a lease.*—If any portion of a coupe remains unfelled on the 31st March it will be surveyed and the area computed, unless it contains poor growth and is not worth considering. (It must be remembered that the fuel forests are so variable in quality that blanks or patches of poor growth, sometimes many acres in extent, occur in places. Large areas not fit to be worked have generally been excluded from the working circle, but it is impracticable to mark in on the maps

and exclude every blank or patch of poor growth). The District Forest Officer will give the contractor to whom the adjoining coupe has been sold, and to him only, the option of working the unfelled portion at a reasonable rate. Should the contractor refuse it, the area will be left unfelled.

250. *Cutting thorny growth at the time of felling.*—It is more convenient to deal with this subject separately, rather than in the felling rules which follow. The subject was discussed at the Conservators' Conference on 25th June 1935 and the following prescription was framed for use in coupe agreements.

> "The contractor shall commence to work on each coupe or strip at one corner thereof and shall proceed with the work evenly removing everything that he is required to remove from the coupe or strip at the same time and cutting down (save as herein provided) all trees, shrubs and bushes whether large or small level with the ground, as shown in the schedule attached, leaving the bark intact and adhering to the wood all round, and without breaking or disturbing the surface of the ground."

This leaves it open to the Working Plans Officer or to the executive to decide on the details the particular conditions of a locality require.

251. The point is a very controvertial one ; at present the balance of opinion appears to be that in this locality there may be advantages in not insisting upon the cutting of all thorny growth. Complete clearing of the coupe is not therefore prescribed and provided he cuts enough slash for rab heaps the contractor may leave other thorny growth uncut ; but it is left open to the Conservator to order complete clearing of such growth if he thinks fit.

252. *Useless tree species.*—In the absence of natural regeneration there is no point in felling useless trees species such as *Dalbergia paniculata* and *Gyrocarpus jacquini*, unless they occur on or near a rab patch.

253. *Felling rules.*—(i) With the following exceptions all trees will be felled.

Exceptions.—(1) Sandal.

(2) Tamarind, wood-apple and other minor forest produce yielding trees.

(3) Bark yielding species, viz., *Cassia auriculata* and *fistula*, *Ventilago calyculata* and *madraspatana*.

The 'useless' species referred to in the preceding paragraph.

(ii) Stools will not be coppiced, but felling is to be done close to the ground.

(iii) Useless species need not be felled unless they occur in or near a rab line, when they should be removed.

(iv) Sufficient thorny growth will be cut to provide for the required number of rab heaps.

The trees not to be felled will be marked by Range Officers before the sale and a list prepared and, if required, produced at the sale for the information of bidders.

254. *Disposal of felled material.*—

(i) *Small timber.*—All small timber will be hammer-marked by the coupe forest guard before it is removed.

(ii) *Firewood.*—All felled firewood, down to whatever size the contractor chooses to remove, will be billetted and stacked prior to removal. The size of the stacks will be fixed by the District Forest Officer in consultation with the contractors. If possible a uniform size should be adopted throughout the division.

(iii) *Charcoal.*—Charcoal burning in coupes is left to the discretion of the District Forest Officer. The usual fire precautions will be taken.

(iv) *Twigs and thorns.*—The cutting and removal of twigs and thorns by purchasers and consumers under head load chits issued by the contractor may be permitted by the District Forest Officer who is at liberty to forbid such removals in localities where there is abuse.

SECTION 4.—TABULAR STATEMENT OF FELLINGS.

255. As definite coupes have not been allotted to definite years of working no tabular statement of fellings is given. The areas of the next ten years coupes in each regular felling series has been furnished in the statement at paragraph 246 above.

SECTION 5.—SUBSIDIARY SILVICULTURAL REGULATIONS.

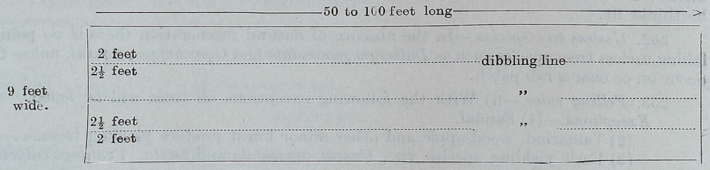
256. *Artificial regeneration.*—The almost complete absence of natural regeneration and the impaired vigour of the coppice re-growth, due to overworking in the past, render artificial regeneration necessary. *Rab* sowings (dibbling seeds in the ash of burnt heaps of slash) in patches are therefore prescribed. There is no obvious scope for *Kumri* work on the lines recently developed in Madura, but if an opportunity occurs in any locality it should be seized. The following notes on *rab* regenereation methods are for guidance. They are not prescriptions and may be varied at discretion.

257. *Heaping slash.*—Wherever possible this should be done by coupe contractors and may be included as a separate clause in their agreements. Slash will be heaped in patches 9 feet wide and not less than 50 feet, or more than 100 feet, in length. On sloping ground they will run along the contours. The patches will be located in places where there is no natural regeneration or coppice re-growth, and where artificial regeneration is likely to succeed. Blanks which are almost certain to prove a failure should be avoided. The patches will as far as possible be distributed evenly throughout the area, their number and size being the maximum which can be done with the amount of slash available after the erection of a fence, if required, around the coupe (vide paragraph 274).

258. In average conditions it has been found that the most suitable height is 3 feet, provided the heap has been well compacted. The burn from a heap of this height does not produce excessive ash and will keep out grass and weeds for about eighteen months, while with poorer burns grass and weeds appear within twelve months, so that a weeding in the first year becomes necessary. Heaps will therefore be 3 feet in height after being thoroughly beaten down with heavy sticks. This compacting is a very important point ; if not done an intense burn will not be obtained. If it is found that this height does not give a burn of the required intensity it should be increased to 4, or even 5 feet.

259. *Burning.*—As short a period as possible should lapse between the burning and the sowings as the ash is liable to be blown away by wind or washed away by rain.

260. *Soil preparation and sowing.*—Sowing in patches will be done as indicated in the following diagram :—



The soil should be worked to a width of 12 inches and to a depth of 6 inches along the three dibbling lines. Seed will be dibbled lightly along the lines and covered with about half an inch of soil.

261. *Sowing on charcoal kiln sites* is not generally recommended, but may be done in places where *rab* heaps are scarce. In such cases sowing should be done only round the periphery of the kiln site.

262. *Choice of species.*—A mixture of two or three species will be dibbled in each patch. The mixture should not be the same in all the patches, but should be varied as much as possible. The selection of the species must naturally depend on the quantity and kind of seed available each year and it is left to the District Forest Officer to select from the species available those which he considers will grow best in each locality. The following are among species which may be tried.

Cassia siamea	*Albizzia lebbek*	*Pterocarpus marsupium.*
Cassia fistula	*Azadirachta indica*	*Zizyphus jujuba.*
Acacia leucophloea	*Leucaena glauca.*	*Prosopis juliflora.*
Acacia sundra	*Hardwickia binata.*	
Albizzia amara	*Pithecolobium dulce.*	

263. *The collection of seed* and their storage until required are most important. The District Forest Officer should carefully watch the progress of collection and seeds should be collected by subordinates whenever possible, or under their personal supervision.

264. *Date of sowing.*—*Rab* sowings were first tried in 1931–32 and only a limited area has been sown each year since. Sowings were done in July and September. Experience over this limited period would seem to indicate that the July sowings were generally ineffective, while those done in September produced good germination but the subsequent development of the seedlings was poor. Advantage was not taken of the thunder showers which usually occur from towards the end of April to about the middle of June.

265. Coupe agreements are usually executed by the 1st of April. In most cases half the number of patches can be burnt and sown by the middle of September before the beginning of the north-east monsoon. The remaining patches can be completed by March and burnt and sown towards the end of April, before the thunder showers occur. If the south-west rains from June to August are satisfactory, seedlings resulting from the April sowings should become fully established in the following north-east monsoon ; but should the south-west rains prove a failure, the April patches will have to be resown in the following September. This will of course necessitate the collection of a larger quantity of seed, but it is believed that it is worth taking the risk involved in the April sowings.

266. It is therefore suggested that a first sowing, limited to half the area of each coupe, be done by the middle of September in the year of felling and that the rest of the coupe be sown during the last week of April following the year of felling. By year of felling is meant 1st April to 31st March. Should the April sowings prove a failure, due to deficient rainfall, a resowing of the area in question will have to be done in the following September along with the first sowings of the next year's coupes.

It is often found a suitable arrangement to sow the quicker growing species, that are easy to raise, such as *Cassia siamea*, in the two outer rows of a strip, and the more important and slower growing species in the central row. The quick growing species thus serve as a protective fence and as a nurse to the plants growing in between them, and, when they interfere with the latter, they can be lopped and, where demand is keen, the refuse sold as green leaf manure.

267. *Weeding and tending.*—If the burn has been a good one scarcely any weeding should be necessary in the first year. Grass and weeds encroaching on the *rab* lines should be *uprooted* by beat subordinates. Mere cutting will not suffice as it is most important that the plants should be kept free from weed competition, for moisture in the soil, during the hot weather.

268. *Soil aeration.*—A soil aeration round the plants in September and again in February is likely to conserve moisture and help the plants through.

SECTION 6.—OTHER REGULATIONS.

269. *Supply of small timber to ryots for the manufacture of agricultural implements.*—The contractor will be required to supply, on demand by the ryots, small timber for the manufacture of agricultural implements in as far as it is available in his coupe. A clause to this effect will be inserted in his agreement.

270. *Green leaf manure.*—In accordance with G.O. No. 1573, Ms. Development, dated 14th July 1937, provision has been made in paragraph 248 above to sell fuel coupes where there is a demand for green leaves for manure, three months in advance of the usual, date, so that contractors may cut and supply manure leaf therefrom at the authorized rate.

271. *Indicator areas.*—The felling of indicator areas is not prescribed. The expected yields per acre from the various felling series, furnished in column 3 of the statement in paragraph 245 above are based on the actual outturn of eleven years working, and obviously these estimates are likely to be more accurate that any estimate formed by felling a plot or strip one acre in extent in a forest the constitution of which varies from acre to acre.

272. *Closure to grazing.*—Felled coupes, including those worked according to the last working plan but not yet thrown open to grazing, will be closed for seven years including the year of felling; but grass cutting, in particular areas, may be permitted with the specific sanction of the Conservator.

273. *Thorn fence round closed areas and along rights of way.*—Fencing is not prescribed. The matter is left to the discretion of the management.

If it is decided to establish a live fence, *Prosopis juliflora* is recommended for the purpose.

274. *Coupe stones.*—As soon as possible after the completion of felling in a coupe it will be suitably demarcated.

CHAPTER IV.—WORKING PLAN FOR THE BAMBOO WORKING CIRCLE.

SECTION 1.—GENERAL CONSTITUTION OF THE WORKING CIRCLE, AREA AND CHARACTER OF THE VEGETATION.

275. *General constitution and area.*—The Bamboo Working Circle is 159,206 acres in extent and includes all areas in the division where bamboos are found in workable quantities. As bamboos are extracted from steep slopes and carried to forest depots in head-loads the question of excluding any areas from the working circle on the ground of inaccessibility need not be considered. The more easily accessible areas have however been over-worked, while those further away from forest roads or cart-tracks have not been fully exploited. The question of facilitating exploitation in the latter is dealt with in paragraphs 295 and 296 below.

276. The working circle is distributed in the various ranges as follows :—

	ACS.
Alangayam range	48,254
Tiruppattur range	70,900
Chengam range	40,052
Total ..	1,59,206

277. *Character of the vegetation.*—A brief description of the bamboo forest has been given in paragraphs 39 to 43 above. The bamboo-sandal mixture, in which the largest sandalwood trees in the division are to be found, has been mentioned separately, as special fire protection measures are necessary during the period of bamboo flowering. These measures have been dealt with in Chapter II above—' Working Plan for the Sandal Working Circle ' (paragraphs 233 and 234 above).

278. *Flowering and dying of bamboo.*—Dates of flowering in the past have been recorded in paragraph 44 above. The present flowering, which began in about June 1933 is progressing much more slowly than was at first expected. Flowering of *Dendrocalamus strictus* is confined to isolated clumps and occasional small patches up to about 5 acres in extent. *Bambusa arundinacea* is flowering on a gregarious scale, the two most active centres being about half a mile east of the Puliyur enclosure in the Tenmalai reserve and immediately north and south of Kalanur village in Mambakkam reserve. Areas which had flowered up to the 1st of April 1936 have been marked on the bamboo working maps.

279. *Damage to* Dendrocalumus strictus.—Very extensive damage has been done to *Dendrocalamus strictus* by graziers, who lop it for cattle fodder. The damage is met with practically throughout the working circle and is particularly striking around enclosures. Clumps are hacked at a height of 8 to 10 feet from the ground and where repeated hacking has taken place the clumps are dead or very nearly so. Prescriptions dealing with this most deplorable state of affairs are given in section 5 below.

SECTION 2.—METHOD OF TREATMENT.

280. *General.*—Bamboo fellings are made over vast areas every year. Under existing conditions departmental working is out of the question, except perhaps as a temporary measure to break a ring. Even then it would be adopted with reluctance. As long as exploitation is carried out through the agency of contractors, it is extremely difficult for the staff to enforce precise and elaborate prescriptions, however desirable they may be silviculturally. It is therefore essential that felling rules should be such that they are easily understood by the cutting coolie and their infringement readily apparent to inspecting officers. The most important points to be considered in framing felling rules are —

(i) The felling cycle.
(ii) The intensity of fellings in the clump.
(iii) The height at which culms should be cut.

281. Before proceeding to discuss these points, it should be mentioned that the proportion of the demand to the quantity available is far smaller in the case of *Bambusa arundinacea* than it is in the case of *Dendrocalamus strictus*. Further, *Bambusa arundinacea* is not lopped for cattle fodder, reproduces itself much more prolifically than *Dendrocalamus strictus* and withstands unrestricted and irregular cutting. In fact, except after flowering and seeding, it is unusual to see a completely dead *Bambusa arundinacea* clump. There is thus no likelihood of *Bambusa arundinacea* being overworked to an extent sufficient to cause any appreciable deterioration of the crop as a whole. The discussion which follows, and the rules framed therefrom, are with reference to *Dendrocalamus strictus* but as both kinds of bamboo occur as a mixed crop, often extensively, and as two separate sets of felling rules are unnecessary, the rules which have been framed may be taken as applicable to both *Dendrocalamus strictus* and *Bambusa arundinacea.*

282. *Felling cycle.*—The results of experiments carried out in accordance with Mr. K. R. Venkataramana Ayyar's Working Plan (1920) are discussed in paragraphs 197 and 198 above. A 3 year felling cycle is accordingly prescribed.

283. *The intensity of felling in a clump.*—It will be seen from Statement A at paragraph 197 above that the removal of all culms from a clump except those of the current year, resulted generally in the deterioration and early death of the clump. Under the methods of felling half the number of old culms on a 3 year cycle, the total number of culms produced during the cycle is twelve in both cases. Of this number four culms are of the current year, so that the number available for removal is four, while the remaining four are to be left in the clump. The retention of some old culms is necessary not only for maintaining the rhizomes in full vigour but also for the mechanical support of the new culms. If it is prescribed that half the number of old culms should be left in the clump check by inspecting officers will be difficult. It is therefore better to prescribe that a definite minimum number of culms, say four, shall be left in each clump.

284. *The height at which culms should be felled.*—This question is not considered in Mr. Venkataramana Ayyar's experiments. It is one on which there is considerable difference of opinion. There is no truth in the belief that felled culms die back at the rate of one internode a year, but it is perhaps probable that felling a few feet from the ground preserves the rhizomes below for a longer period that low felling does. In practice the most convenient height is from two to three feet from the ground and, silviculturally, there seems to be no objection to this.

285. *Felling rules.*—In the light of what has been said above, the following felling rules are prescribed :—

(i) No current years culms will be felled. When young culms are absolutely necessary for basket making or similar purposes, the District Forest Officer will confine removals to definite areas, the location and size of which will depend on the nature of the demand. Such areas should be as limited as possible.

(ii) A minimum of four mature culms, that is culms over a year old, will be left in each clump.

(iii) Felling will be done at a height of two or three feet from the ground.

286. *Calculation of the yield.*—As the figures relating to past yields are not considered sufficiently reliable, no attempt is made to forecast, from them, the future yield. Apart from this, any estimate, however carefully prepared, would not be of much value as the bamboos have begun to flower and die.

SECTION 3.—METHOD OF EXECUTING THE FELLINGS.

287. *Subdivision of the area.*—The existing twenty-four felling series in which are included certain unreserves, will continue. In addition, a twenty fifth series, comprising the hitherto unworked Palamarathur unreserves of the Chengam range, is prescribed. These unreserves although they have not been systematically worked in the past, because they were not considered good enough, contain reasonably good growth in places and are being exploited illicitly by the contractors of neighbouring coupes. The newly constituted series will be known as the Palamarathur unreserves series.

288. An area of some 2,600 acres in the north-east corner of the Inner Javadi reserve, in the Alangayam range, immediately south of the Pungulam reserve, contains good bamboo forest ; but was omitted when the existing felling series were formed in 1925. It has now been included in the working circle and divided between coupes I and III of the Pungulam Felling Series of the Alangayam range.

289. Details relating to each of the twenty-five felling series now prescribed are set forth in the statement below. The collection depots for each coupe (column 6) and extraction paths where there is likely to be friction between contractors (column 7) are suggested and not prescribed, so that the District Forest Officer may make any change which may be found necessary from time to time. A description of coupe boundaries is given in Appendix VIII.

Number and name of felling series.	Where situated.	Coupes.			
		Number.	Area in acres.	Collection depots.	Extraction paths.
(1)	(2)	(3)	(4)	(5)	(6)
		Alangayam Range.			
			ACS.		
1 Mangalam	Mangalam reserve ..	I	1,540	Vallipattu ..	....
		II	1,830	Reddiyur	....
		III	2,710	Marimanikuppam ..	....
2 Nagaluthu	Do. .. Extension, Jalarpet, Nagaluthu and Nagaluthu extension.	I	1,978	Vakkanampatti ..	....
		II	2,253	Krishnapuram and Elagiri.	Kottur-Elagiri foot path passing between Nagaluthu coupes I and II.
		III	2,550 (in 2 bits).	Paramapattu ..	....
3 Yelagiri	Yelagiri unreserves ..	I	1,702	Chinnaponneri ..	Kottaiyur-Chinnaponneri foot-path passing along the northern boundary of Nagaluthu coupe I.
		II	1,478	Kodiyur	Kottur-Vakkanampatti Kodiyur foot-path known as ' Konaikallu ' path, passing through Nagaluthu coupe I.
		III	1,395	Narayanapuram and Kodiyur.	Puttur-Narayanapuram foot-path passing between the Mangalam series on the east and the Nagaluthu series on the west and the Nelavur-Kilkaniyur-Kottur-Vakkanampatri-Kodiyur foot-path passing through Elagiri coupe II and Nagaluthu coupe I.
4 Alangayam	Alangayam reserve ..	I	5,190	Alangayam	Gillman road.
		II	3,300	Kalarapatti	
		III	3,100	Reddiyur	
5 Mantharakuttai ..	Inner Javadis reserve.	I	945	Kavalur and Melarasampattu.	Gillman road, the Mantharakuttai cart-track and the Madigam cart-track running along the Kavalanur Ar and through the forests of the Vellore East division.
		II	990	Mantharakuttai and Melarasampattu.	
		III	1,427		
6 Pungulam	Pungulam and Inner Javadis reserve.	I	3,405	Andiappanur	The Vasanthapuram-Kambugudi, Kambugudi-Andiappanur and Vasanthapuram-Kavalur roads.
		II	3,552	Pungulam and Andiappanur.	
		III	4,480	Vasanthapuram and Andiappanur.	
7 Nayakkanur ..	Inner Javadi reserve.	I	1,466	Vasanthapuram and Jettukuttai sathuram.	Vasanthapuram-Kavalur road. The cart-track from Jettukuttai sathuram to the above road, passing through Pungulam coupe III. Also for coupe II the cart-track passing through coupe III (of the same series to the Gillman road).
		II	1,760	Chinnagirivalasai, Nagaluthupallam and Jettukuttai sathuram.	
		III	1,203	Nayakkanur and Nagaluthumodu.	Gillman road.

Number and name of felling series.	Where situated.	Coupes. Number.	Area in acres.	Collection depots.	Extraction paths.
(1)	(2)	(3)	(4)	(5)	(6)
		Tiruppattur Range.			
1 Andiappanur ..	Andiappanur reserve.	I	2,330	The cart-stand near the Andiappanur reserve line where the cart-track from Andiappanur meets the foot-path from Nadur.	....
		II	3,970	The point in the coupe where the Andiappanur cart-track meets the Domachi Guddai Ar, and Kurichchilapattu.	....
		III	3,270	Rajapalaiyam ..	....
2 Kambugudi	Inner Javadi reserve and Kambugudi unreserves.	I	2,144	Kambugudi	The Kambugudi-Andiappanur road and for coupes II and III also the cart-track from Rangasamudram to the above road. When the cart-track from Serkanur to Rajapalaiyam is constructed it will be the outlet for coupe III, with the collection depot at Serkanur.
		II	3,757	Rangasamudram ..	
		III	3,968	Thagarakuppam ..	
3 Thagarakuppam ..	Inner Javadi reserve	I	2,835	Turinjikuppam and Kallatur.	The Kilayur-Paramanandal cart-track.
		II	2,304	Kallatur	
		III	1,632	Kelaiyur	
4 Mambakkam ..	Mambakkam reserve.	I	4,948	Kannipuliyamaram ..	....
		II	3,201	Mambakkam	The Valasai-Matrapalli foot-path.
		III	2,670		
5 Puliyur unreserve ..	Puliyur unreserves ..	I	3,923	The cart-stand near the Puliyanur Ar. at the meeting point of the foot-paths which form the eastern and western boundaries of Puliyanur coupe II.	The two foot-paths mentioned in the previous column and that from the collection depot along the Singarapettai cart-track between Puliyanur coupes I and II.
		II	4,377	Mambakkam	The Sittur-Mambakkam foot-path passing through Mambakkam coupe II.
		III	3,584	Valasai (west) ..	The Valasai-Matrapalli foot-path (via) Merkathiyanur.
6 Nadukuppam ..	Inner Javadi and Chinnasamudram reserves.	I	2,560	Do. ..	....
		II	2,515	Kottanur	....
		III	1,939	Kuppanattam. ..	....
7 Singarapettai ..	Singarapettai and Singarapettai extension reserves and Puliyur unreserves.	I	1,447	Ankuthu Jonai ..	The cart-track through Govindapuram reserve to the Singarapettai-Tiruppattur road.
		II	2,144	Bomminatham well ..	
		III	1,779	Ankuthu Jonai ..	
8 Puliyanur	Singarapettai extension.	I	1,530		
		II	1,860	As for Puliyur coupe I.	The Singarapettai cart-track between coupes I and II.
		III	1,560		
9 Malaitiruppattur ..	Inner Javadi reserve.	I	1,402	Adivaram	The cart-track passing through Chinnasamudram reserve.
		II	1,760		
		III	1,491	Chinnasamudram ..	
		Chengam Range.			
1 Palamarathur ..	Palamarathur reserve.	I	1,178	Chunnambamadugu and Kilsilanbadi.	The Kuttathur, Lushington and Gillman roads, and the cart-track from Chunnambumadugu up the Cheyyar valley to the Gillman road passing through coupe III. There is however no objection to the produce being transported down the Cheyyar valley.
		II	1,843	Valukamparai and Kannalamandai	
		III	2,054	Gargumandai and Gunreddi.	
2 Palamarathur unreserves.	Palamarathur, Kannalamandai, Kuttathur, etc., unreserves.	I	1,805	Tettur	The Kuttathur, Lushington and Gillman roads and the rough cart-track from coupe I of the series to the Lushington road, passing through the Mitlapattu bamboo felling series and Athipartu enclosure in the Polur range of the Vellore East division. For coupe III also the Kilvilampouchi-Kuttathur cart-track passing through Palamarathur coupe I.
		II	1,600	Velichanur	
		III	2,253	Kilvilampouchi and Melsilambadi.	
3 Nallapattu, North ..	Nallapattu reserve ..	I	913	Nallapattu and Chinnavavvakuttai.	The Kuttathur, Lushington and Gillman roads. For coupes I and III also the cart-track from Nallapattu passing through Palamarathur unreserves coupe I and the forests of the Vellore East division to meet the Lushington road. For coupe III also the cart-track from Pulichakuttai to Nallapattu, passing through callapattu North coupe I, the forests of the Vellore East division and Palamarathur unreserve coupe I.
		II	845	Chinnavavvakuttai and Kuttathur.	
		III	762	Pulichakuttai and Kuttathur.	
4 Nallapattu South ..	Nallapattu reserve ..		717	Valakad and Nachchimalai.	The Kuttathur, Lushington and Gillman roads and the cart-track from Pulichankuttai to the Lushington road.
		II	610	Valakad and Paderi ..	
		III	1,075	Kilvilampouchi ..	As for Palamarathur unreserves coupe III.
5 Bandirevu	Tenmalai reserve (including the Padapanjamarathur enclosure).		1,568	Madalamadurai Ar. and Maniagowden kollai.	The cart-track down the Cheyyar valley.
		II	2,310	Nagamarathupatrai and Avarampatrai.	
		III	1,357	Konamathipatrai and Pambar north patrai.	
6 Kallatur	Tenmalai reserve ..	I	1,165	Pambar South patrai and Malaiyandikollai.	
		II	1,370	Kollattur Rama Gowden kollai and Malaiyandi kollai.	
		III	1,600	Navapatti and Tennamarathur patrai!	
7 Tenmalai Central ..	..	I	2,809	Navapettai	Navapettai foot-path from Melpatti to Kllathur.
		II	1,444	Pambar South patrai.	Pambar foot-path from Perumattam to Oorgoundanur, via Erukkampattu.
		III	2,624	Nagamarathurpatrai.	Nagamarathur patrai from Erukkampattu to Bandirevu, via Mottur

Number and name of felling series.	Where situated.	Coupes.			
		Number.	Area in acres.	Collection depots.	Extraction paths.
(1)	(2)	(3)	(4)	(5)	(6)
		Chengam Range—cont.			
			ACS.		
8 Tenmalai East ..	Tenmalai reserve ..	I	1,662	Nellivoi	The Nellivoi-Pudupalaiyam foot-path passing through coupe II.
		II	2,534	Attipattu	The Attipattu-Pudupalaiyam foot-path.
		III	1,766	Kilapettu	The Kilapettu-Pudupalaiyam foot-path.
9 Kuppanattam ..	Do. ..	I	730	Cheyathankulam ..	The Cheyyar valley cart-track to Paramanandal. Coupe III produce to move along the common boundary between coupes I and II.
		II	825		
		III	633		

Note.—No foot-paths or cart-tracks passing through the Vellore East division, other than those specified above, should be allowed without first obtaining the sanction of the Conservator. This note is inserted at the request of the Conservator of Forests, Salem Circle.

290. *Regulation of fellings.*—Fellings will generally be carried out through the agency of contractors, one coupe in each felling series being worked annually. The District Forest Officer will however be given the discretion of selling bamboos departmentally should there be no competition at the sales or if he is opposed by an organized ring.

291. *Period of lease.*—The system of triennial leases now in force has much in its favour, but in certain circumstances annual leases are preferable. The decision as to which should be adopted is left to the District Forest Officer, who should however consult the Conservator before making a change in this respect. When flowering commences in any series it will be better if the coupes are sold annually, coupes being selected according to the intensity of flowering and excluded from working until the new crop becomes saleable.

SECTION 4.—TABULAR STATEMENT OF FELLINGS.

292. In view of the flowering and dying of bamboo definite coupes have not been allotted to definite years of working. Each felling series and its subdivision into coupes has been shown on the bamboo working map. Bamboo flowering centres, up to the end of April 1936, have also been shown. The current triennial leases expire on the 31st March 1938.

SECTION 5.—OTHER REGULATIONS.

293. *Hacking of* Dendrocalamus strictus.—Mention has already been made in Part I of the most deplorable state of affairs brought about by the wholesale lopping and hacking of *Dendrocalamus strictus* by malayalis for cattle fodder. Every grazier is allowed to carry a bill-hook in the forest and if this is prohibited much of the damage would disappear. In addition severe punitive action should be taken against the malayalis by cancelling, either in whole or in part, the concession of free grazing in blocks where damage is bad.

294. *Overworking by contractors.*—Overworking and general non-observance of felling rules is due largely to the fact that the contractor grossly underpays his labour. On a wage of next to nothing the cutting cooly goes to the forest nearest his village, as near a road or cart-track as possible, and fells and removes as many culms as he can in the quickest and easiest way. The result is that the more accessible areas have been heavily overworked. The cooly is, in most cases, aware of the more important felling rules, but cannot possibly observe them if he is to earn a living wage. Fellings are made over vast areas every year and it is an impossible task for the present staff to see that felling rules are enforced throughout the area. The remedy lies with the contractor and as it would be impracticable to insist on him paying his labour at a reasonable rate, the only solution is the imposition of heavy fines until he realizes the cause of the trouble and takes steps to improve matters. Small fines have been imposed in the past, but appear to have had no effect.

295. *The construction of new roads and cart-tracks.*—With the object of facilitating the exploitation of hitherto inaccessible areas, the construction of the following roads has been proposed in a later chapter :—

(i) *Kambugudi-Puliyanur*, via Pudur, along the Tiruppattur plateau.
(ii) *Kuttattur-Paramanandal*, via Puliyur and Melpet, along the Tenmalai plateau.
(iii) *Kavalur-Bandirevu*, down the Cheyyar valley to meet the existing cart-track to Paramanandal.
(iv) *Seranur-Rajapalaiyam*, down the western slopes of the Tiruppattur javadis.

296. Before making a new cart-track either in or leading to his coupe or felling series the contractor must obtain the District Forest Officer's approval for the proposed alignment. If required the Range Officer will be instructed to align a suitable trace for him. The contractor will not be required to pay for the services of the Range Officer or his staff and an endeavour should be made to encourage him to open up his area by rendering him all reasonable assistance.

297. *Grazing.*—Grazing in bamboo areas where seeding has taken place must do a considerable amount of harm to the young regeneration. Nevertheless, it is believed that a sufficient quantity of seedlings will survive to form the ultimate crop. Apart from this, the extent of the working circle is so large that even partial closure will cause great hardship to the local villagers. No grazing restriction is therefore proposed.

298. *Fire protection.*—The protection of the working circle is included in the general scheme of fire protection, which is dealt with under 'Miscellaneous Regulations.' Special measures for the protection of valuable sandal growth occurring in areas where the bamboo has died have been prescribed in the working plan for the Sandal Working Circle.

299. It should be impressed upon the subordinate staff that special vigilance should be exercised during the fire season in areas where bamboo has died. Carts should not be permitted to remain in the forest during the night, but should be compelled to retire to the nearest enclosure. No fire, for cooking or any other purpose, should be lighted in the forest and anybody found doing so should be severely dealt with.

CHAPTER V.—WORKING PLAN FOR THE MINOR FOREST PRODUCE WORKING CIRCLE.

SECTION 1.—GENERAL CONSTITUTION OF THE WORKING CIRCLE.

300. *General constitution.*—The Minor Forest Produce Working Circle comprises all the reserves of the division, compounds of rest houses, etc., and unreserves in the following cases :—

(*a*) Throughout the division for the collection of konnai, avaram and sural barks and gallnuts.

(*b*) In the Krishnagiri range for nux vomica.

(*c*) On the Javadi, Tenmalai and Yelagiri hills for all kinds of produce.

301. *Subdivision of the area.*—The existing division of the reserves and unreserves into 15 blocks will continue. The following statement shows the constitution and area of each block :—

Block.	Constitution.				Area [total of columns (3) and (5)].
	Reserve.		Unreserve.		
Serial number and name.	Name.	Area in acres.	Name.	Area in acres.	
(1)	(2)	(3)	(4)	(5)	(6)
					ACS.
		Alangayam range.			
1 Yelagiri	Nagaluthu	2,810	....	..	..
	Nagaluthu extension.	1,225	....	..	..
	Jalarpet	1,661	....	..	..
	Mangalam	6,080	....	..	..
	Mangalam extension.	2,550	....	..	14,326
2 Alangayam ..	Narasingapuram ..	2,187			
	Kallarpatti	2,054			
	Pungulam	9,203	....	..	35,059
	Alangayam	11,590			
	Inner Javadi	10,025			
3 Athanavoor ..	....	..	Yelagiris	4,310	4,310
4 Kavalur	....	..	Mantharakuttai ..	3,683*	3,683*
		Tiruppattur range.			
1 Andiappanur ..	Andiappanur	9,518	....	..	9,518
2 Mambakkam ..	Mambakkam	10,608	....	..	10,832
	Mambakkam extension.	224			
3 Singarapettai ..	Govindapuram ..	2,304			
	Singarapettai	2,636	....	..	11,901
	Singarapettai extension.	6,961			
4 Inner Javadis ..	Inner Javadis ..	21,414	....	..	24,255
	Chinnasamudram ..	2,841			
5 Middle Javadi ..	....	..	Puliyur and Kambugudi.	21,593	21,593
		Chengam range.			
1 Ponniar	Anandavadi	8,269			
	Ravandavadi ..	10,624	....	..	40,573
	Ponniar	21,680			
2 Tenmalai ..	Palamarathur ..	5,075	....	..	
	Nallapattu	4,922	....	..	41,126
	Tenmalai (part) ..	23,680	Tenmalai	5,933	
	Paramanandal ..	1,516	....	..	
3 Pudupalayam ..	Tenmalai (part) ..	4,350	....	..	11,392
	Mudanai	7,042			
		Krishnagiri range.			
1 Maharajagadai ..	Maharajagadai ..	10,630			
	Maharajagadai extension.	1,542	....	..	15,932
	Naralapalli	3,760			
2 Oppathavadi ..	Merlakottah	6,876			
	Madugampalli ..	36	....	..	8,664
	Bargur	1,752			
3 Kottur	Nandibanda	2,105	....	..	6,284
	Kottur	4,179			
	Total ..	**2,23,929**		**35,519**	**259,448**

* Excluding, the Naickanur Jagir lands.

302. The following, not included in any of the above blocks, will be treated as separate sale units.

Alangayam Range.

Alangayam rest-house compound.
Kavalur rest house compound.
Tamarind trees on the margins of the Alangayam-Tiruppattur road between mile stones 18/6 and 21.
Vasanthapuram village poramboke tamarind trees.

Tiruppattur Range.

District Forest Office and Sandalwood sale depot compounds, Tiruppattur.
Andiyappanur rest house compound.
Singarapet rest house compound.

Krishnagiri Range.

Tamarind trees on the margins of that portion of the Krishnagiri-Vaniyambadi road which passes through the Nandibanda reserve.
Tamarind trees in the Medugampalli rest house compound.

SECTION 2.—METHOD OF TREATMENT.

303. A list of minor forest products has been given in paragraph 89 above. Exploitation will ordinarily be through the agency of contractors. Leases will be sold in June each year as detailed in the following section. Occasion may, however, arise when for various reasons, at present unforeseen, it may become desirable to work any particular product departmentally. It is therefore prescribed that, while exploitation through contractors should be the general rule, departmental working may be resorted to, with the prior sanction of the Conservator, whenever such a porcedure seems necessary or expedient.

SECTION 3.—UNITS OF SALE AND PERIODS OF LEASE.

304. *Konnai* (*Cassia fistula*) *bark* will be worked on a 4 year rotation. It is believed that the maximum production of tannin is obtained in five years, but four years is prescribed as there are four ranges in the division and leasing one range each year will ensure continuity of working. The unit of lease will be the range, including unreserves, and the lease period one year from the 1st of July in the year of the sale to the 30th of the following June.

305. *Avaram* (*Cassia auriculata*) *and Sural* (*Ventilago madraspatana*) *barks and gall-nuts.*—Each range, including unreserves, will constitute a separate sale unit and leases will ordinarily be for one year from the 1st of July in the year of sale to the 30th of the following June. If however there is a demand, and the District Forest Officer considers it desirable, the right of collection may be sold on a biennial or triennial lease. The lease period will begin on the 1st of July in the year of sale. Products may be sold separately or together.

306. *Nux vomica.*—On the Javadis, in the Alangayam, Tiruppattur and Chengam ranges, where nux vomica is comparatively plentiful, it will be sold by blocks with other minor products. In the Krishnagiri range, where it is scarce, the range, including unreserves, will be the unit of sale and the period of lease will ordinarily be for one year from the 1st of July in the year of sale, but there is no objection to biennial or triennial leases.

307. *Other minor products.*—The right to collect and remove other products, excepting green leaves for manure, will be sold by blocks or rest house compounds, etc. Each block or compound, etc., may be sold separately or, if expedient, two or more blocks may be sold together, or any product, for which a special demand may have arisen, singled out and sold separately. Leases will run for one year from the 1st of July in the year of sale.

SECTION 4.—GREEN LEAF MANURE.

308. *Demand and provision to meet it.*—The demand for green leaf manure seems to be confined to the Chengam taluk, around Chengam, and the Tiruppattur taluk, on either side of the Tiruppattur-Krishnagiri road. In the former case there is an adequate supply from panchayat reserves and in the latter case mitta forests and unreserves serve all villages except those situated near Agraharam and Puram. Illicit removals by these villages from the eastern slopes of the Nandibanda reserve and the southern portion of the Kottur reserve (both reserves being in the Krishnagiri range) are of daily occurrence during the

period of agricultural activity. To meet this demand two Green Leaf Manure Blocks are prescribed, viz. :—

Nandibanda block, 370 acres *, including the western portion of the Nandibanda reserve lying to the south of the Bargur-Vaniyambadi road (Survey of India, 1″ sheet No. 57 L/6).

Kottur block, 807 acres, including that portion of the Kottur reserve lying to the south of the stream flowing from west to east immediately north of point 2321. (Survey of India, 1″ sheet No. 57 L/6).

Both blocks have well defined boundaries and they have been marked on the Fuel Working map of the Krishnagiri range.

309. *Method of working*.—Each block will be divided into three coupes of approximately equal area. One coupe in each block will be sold in auction, annually, in rotation. The coupe contractors will sell permits for removal of manure leaves either by cart-load or by head-load, at rates not exceeding a certain maximum which will be fixed from time to time by the Conservator of Forests. The maximum rates should be uniform throughout the forest division concerned. (At present they are Re. 1–4–0 per cart-load or one anna per head-load in the Vellore West division, but should either of the manure leaf blocks be transferred to another forest division, the rates obtaining in that division will be adopted). The contractors will be responsible for the observance of the cutting rules prescribed below. Should it be impossible to lease the coupes to contractors at reasonable rates, cart-load and head-load permits will be issued departmentally. But since adequate check of individual removals would be difficult, every effort must be made to work through the agency of contractors.

310. *Cutting rules* :—

(i) Only leaves and twigs not thicker than the little finger shall be cut.

(ii) Removals shall take place only between sunrise and sunset.

311. *Artificial regeneration of manure leaf species*.—In addition to the experiments prescribed in paragraphs 345 and 346, below, a regular programme of artificial regeneration will be carried out annually, as soon as a suitable technique has been evolved. Full latitude is allowed to the District Forest Officer as regards choice of species and methods. One-third of the area of each coupe should be regenerated in the year after working for manure leaf and there is no objection to spending the whole revenue of each coupe on regenerating one-third of it, should so much be found necessary. By regenerating one-third of each coupe each time the coupe is worked, the entire area of the block will be regenerated within the period of the working plan. Ploughing of blank areas is suggested, followed by sowing in lines, or introduction of cuttings. *Cassia auriculata* will be a very desirable species to raise, since its introduction is easy, and since its bark can be profitably exploited for tanning, should the demand for manure leaf decline. *Cassia siamea* should also be tried ; this species shows its best development after a good burn, but it can also be raised without burning, provided the soil is worked. Other species and other methods may also be tried. Once the blocks have been completely stocked with suitable species it is expected that the coupes will fetch attractive prices.

312. *Supply from fuel coupes, should there be a demand*.—In accordance with G.O. Ms. No. 1573, Development, dated 14th July 1937, provision has been made in paragraph 270 above to sell fuel coupes where there is a demand for green leaf for manure three months in advance of the usual date, so that contractors may cut and supply manure leaf therefrom at the prescribed rate.

CHAPTER VI.—WORKING PLAN FOR THE GRAZING WORKING CIRCLE.

SECTION 1.—GENERAL CONSTITUTION AND AREA.

313. The Grazing Working Circle comprises all the reserves of the division and 10,350 acres of unreserve situated in 33 grazing blocks (columns 5 and 6 of statement in Appendix V). The area open to grazing in reserves will however vary from year to year as worked fuel coupes will be closed for a period of seven years, including the year of felling.

SECTION 2.—METHOD OF TREATMENT.

314. *Introduction*.—The damage caused by grazing has been referred to in paragraphs 70 and 71 above. It has also been shown that the grazing incidence is dangerously high, but it is doubtful if the present policy of Government will permit of any reduction in the number of cattle which are grazed annually in reserves. Provision must therefore be made to meet the full grazing requirements of villages dependent on reserves for pasture.

* This area excludes 200 acres disreserved in Government Notification No. 45, dated 22nd December 1937.

315. *The objects of management* are thus

(i) to provide pasture for the cattle of villages in the vicinity of reserves and in the enclosures situated therein, consistent with the protection of newly felled areas, and to derive a legitimate amount of revenue.

(ii) to control the exercise of grazing concessions granted to the malaiyalis in the hill villages of the Tiruppattur and Chengam ranges.

316. *Prescriptions.*—The following general prescriptions will apply throughout the working circle :—

(i) The grazing year will be from 1st July to 30th June.

(ii) Goat browsing will not be allowed.

(iii) Worked fuel coupes will be closed to grazing for a period of seven years, including the year of felling.

317. Other prescriptions vary with the area and depend on whether free grazing under the Forest Village System is permitted or not. They are dealt with in the following sections.

SECTION 3.—FREE GRAZING UNDER THE FOREST VILLAGE SYSTEM.

318. *General.*—The concession of free grazing to those villages of the Alangayam, Tiruppattur and Chengam ranges which are still under the Forest Village System (G.O. No. 2687, dated 3rd December 1915) will continue as long as the villages remain under the system. A list of these villages is given in column 2 of Appendix V.

319. *Terms of the concession.*—These have been dealt with in paragraph 33 above. No alteration or modification is called for. The number of cow units in each village, according to the last triennial cattle census (1937) and the amount of grazing deposit at 3 annas per cow unit are given in columns 3 and 4 of Appendix V.

320. *Grazing blocks.*—The location and area of the grazing block allotted to each village is given in columns 5, 6 and 7 of Appendix V. Tracings of these blocks, from 4 inches Survey of India sheets, have been recorded in the District Forest Office. It is therefore considered unnecessary to furnish boundary descriptions here or to provide a Working Map for the control of grazing.

321. *Refund of grazing fees.*—It has been customary in the past to refund grazing fees at the time when rewards for successful fire protection are disbursed. This custom will continue. In paragraph 336 below it is prescribed that fire protection rewards shall be paid early in October each year. The grazing year ends on the 30th of June, so that a clear period of three months remains for inspection of grazing blocks by Range Officers, the submission of their reports on the degree of protection and co-operation attained and receipt of the Conservator's sanction, which is necessary before the refunds can be made.

322. *Readmissions to the Forest Village System or its extension to new villages.*—Should any of the villages on the Tiruppattur Javadis or on the Yelagiris, which have withdrawn from the Forest Village System, be readmitted to it, or if the system be extended to new villages, the names of such villages will be added to the list in Appendix V, in accordance with the provisions of Board's proceedings No. 285, Miscellaneous, dated 14th May 1919, and suitable grazing blocks allotted to them by the District Forest Officer. Grazing of plains cattle in these blocks, on payment of the usual fees, will, in consequence, cease.

SECTION 4.—GRAZING ON PAYMENT OF THE USUAL FEES.

323. *General.*—In areas not under the Forest Village System, grazing will be regulated by the *issue of permits* subject to the usual conditions. The rates charged will be those sanctioned by the Government from time to time.

324. *Local and foreign cattle—Penning of cattle.*—A distinction is made between ' local ' and ' foreign ' cattle and they are at present licensed at *Re. 0–8–0 and Re. 1–0–0 respectively. No authoritative definition of ' local ' and ' foreign ' applicable to this division can be traced. The present practice is to class as ' local ', cattle which remain in the division throughout the year ; all others being ' foreign '. Pending sanction of a general definition in respect of local and foreign cattle, which question is under investigation (by Special Grazing Officer) *local* cattle will be the cattle belonging either to owners or occupiers of land within the limits of the forest division. All other cattle will be classed as foreign.

Penning.—Penning in the reserved forests may be permitted by the District Forest Officer, in consultation with the Conservator, on payment of fees at the rate of Re. 1 per 100 head of cattle or part thereof. Pens shall not be allowed in any of the fuel felling series, nor within half a mile of them.

* Reduced to half of those rates with effect from 1st April 1938.

SECTION 5.—CUTTING AND REMOVAL OF GRASS FROM RESERVES.

325. The cutting and removal of grass from reserves will be regulated by the orders issued in G.O. Ms. No. 227, Development, dated 26th January 1938 (Appendix IX). The following conditions are accordingly prescribed :—

(a) Cutting and removal will be confined to long grass only and allowed free—
  (i) In all areas except those closed to grazing as notified annually in the District Gazette.
  (ii) Without permits.
  (iii) By sickles only, billhooks and felling axes shall not be carried.
  (iv) Only in head-loads.
  (v) For bona fide domestic use only and not for sale.
  (vi) Throughout the year, but only between dawn and dusk.

(b) No forest produce will be cut to tie or stiffen the bundles.

(c) Removals will be only along recognized footpaths or roads which will be notified in the *District Gazette*.

(d) The concession is liable to be terminated for serious breach of any of the conditions mentioned above or in the event of the occurrence of any serious fire, under the orders of the District Forest Officer, who will report the fact to the Collector for approval within ten days.

SECTION 6.—SUBSIDIARY MEASURES FOR IMPROVEMENT.

326. *Closure of burnt areas.*—The prevalence of grazing is closely associated with deliberate setting of fire by graziers with the object of obtaining the tender grass which comes up in the first rain after the burn. The damage caused by fire has been dealt with elsewhere. It is possible to mitigate the harmful results by closing burnt areas to grazing. It is therefore prescribed that when a burnt area is extensive and the damage to the growth serious enough, the District Forest Officer (who must be the judge in such matters) will, immediately on receipt of the Range Officer's fire occurrence report, apply to the Collector for the closure to grazing of the burnt area for an adequate period in sufficient detail to enable him to pass orders without further reference, and request urgent orders. The Collector will pass orders at once and forward a copy of his order to the Chief Conservator for concurrence.

327. *Improvement of watering facilities.*—It is desirable that the existing tanks and wells situated within the reserves, should be kept in repair by the department. Most of the tanks carry water for a few weeks only after rains, while many of the wells run dry in the hot weather, when the need for watering facilities is most keenly felt. The following statement gives a list of tanks and wells which require repair. The probable cost of the work is estimated at Rs. 2,640, and it is suggested that it be completed within a period of four years if possible.

Serial number and name of tank or well. (1)	Reserve in which situated. (2)	Nature of work required. (3)	Probable cost. (4)
	Alangayam range.		RS.
1 Venkatachalam tank	Kallarapatty	Removing silt and repairing bund.	75
2 Chinnatheertham well	Alangayam	Removing silt and repairing rough stone lining.	80
3 Vethilakaran tank	Kallarapatty	Removing silt and repairing bund.	50
4 Bangiyeri well	Alangayam	Removing silt, widening and constructing water trough.	500
5 Rangareddy tank	Pungulam	Removing silt and repairing bund.	50
	Tiruppattur range.		
6 Mayankuttai tank	Singarapettai	Removing silt and raising bund.	60
7 Naickeneri tank	Andiappanur	Removing silt and rebuilding surplus weir with rough rubble in lime mortar.	600
8 Ammaniammal tank	Chinnasamudram	Removing silt and repairing bund.	300
9 Bommanatham well	Singarapettai	Removing silt	10
	Chengam range.		
10 Vanthakulam tank	Mudanai	Removing silt	90
11 Molakarachikuttai tank	Ravandavadi	Do.	75
12 Krishnakulam tank	Mudanai	Do.	50
13 Poomanthakulam tank	Anandavadi	Removing silt and repairing bund.	50
14 Narayanakulam tank	Ravandavadi	Do.	50

Serial number and name of tank or well. (1)	Reserve in which situated. (2)	Nature of work required. (3)	Probable cost. (4)
	Krishnagiri range.		
			RS.
15 Perumalkoil well	Kothur	Deepening by blasting	50
16 Angalichiamman well	Maharajagadai	Removing silt	50
17 Nagappaneri tank	Maharajagadai extension	Do.	50
18 Nallueri tank	Neralapalli	Do.	50
19 Periawthu well	Do.	Removing silt, blasting and rebuilding stone revetment.	150
20 Yerasan well	Do.	Removing silt and repairing bund.	150
21 Urumalakunta well	Neralakottah	Removing silt	50
22 Vannathiparai well	Do.	Do.	50

328. There is at present no watering place in the Sethaponam valley in the Alangayam reserve. The District Forest Officer has already proposed that a well should be constructed in the locality. The site has been chosen by him and the cost estimated at Rs. 420. The construction of the well is strongly recommended.

SECTION 7.—OTHER REGULATIONS.

329. *Demarcation of closed areas.*—Areas closed to grazing will be indicated in the forest by means of red sign boards placed at as many points as may be necessa ry.

CHAPTER VII.—MISCELLANEOUS REGULATIONS.

SECTION 1.—FIRE PROTECTION.

330. *Introduction.*—The system of fire protection prescribed below is the same as that which has been in use hitherto, except that the fire lines around the Kottur specially protected block on the Yelagiris and along the seven miles of district boundary between the Alangayam and (old) Odagathur ranges, prescribed in paragraph 98 (1) and (2) of Mr. Sathe's Working Plan, need not be maintained for the following reasons—

(i) The line around the Kottur block, 5½ miles in length, serves to protect a few hundred acres of forest which are in no way different from other similar and more extensive areas on the Javadis and therefore do not merit sepcial treatment.

(ii) The seven miles of district boundary between the Alangayam and (old) Odagathur ranges is an isolated stretch of line situated in a locality where fire risk is no greater than elsewhere in the reserves of the division.

331. It is also unnecessary to maintain the whole length of 9 miles of district boundary between the Chengam and Polur ranges, prescribed in paragraph 98 (3) of Mr. Sathe's Working Plan. From the top of Madi malai (i.e., where the common boundary between the Nallapattu and Thenmalai reserves meets the western boundary of the Patrakad reserve) to Bheemajonai (i.e., the meeting point of the Thenmalai, Patrakad*, Mulakad,* and Damarakadu † reserves), a distance of 3 miles and 67 chains, the line is overgrown with high grass and it is sufficient if only this distance is maintained as a fire line.

332. *Prescriptions.*—The system prescribed falls under two heads, Special and General. The former involves the allocation of definite areas (corresponding to grazing blocks) to definite villages and the payment of rewards for their successful protection, the maintenance of the fire line referred to in the preceding paragraph, and the protection, for seven years, of fuel coupes in the Alangayam, Tiruppattur and Chengam ranges, which have been regenerated with *rab* sowings ; while under the latter, important foot paths will be fire-traced as early possible in the fire season and the local subordinates held generally responsible for protection. Details relating to Special and General protection are given below.

Special protection.

333. *Areas in which undertaken.*—Special protection will be undertaken in areas which come under the Forest village system. These are given below, but are subject to alteration depending on whether any villages withdraw from the system or are added to it.

Range.	Number of villages.	Area in acres. Reserves.	Unreserves.	Total.
Alangayam	1	1,282	44	1,326
Tiruppattur	5	3,727	2,625	6,352
Chengam	~~38~~ 37	28,011	7,681	35,692

NOTE.—Figures extracted from columns 5 and 6 of the statement in Appendix V. Enclosures have not been included.

The unit of protection will be a grazing block, of which there are 43 at present (vide Appendix V).

* In the Vellore East Division. † Now under Panchayat management.

- x. W.P.A.O.O. D.D.O. 406/44 Dt 13/5/44.

334. *Fire rewards.*—As already stated in an earlier chapter, rewards paid in the past were not based on any definite rate and varied from Re. 0–12–0 to Re. 1–0–0 per 100 acres. From enquiries made, it would seem that Re. 1 per 100 acres is a reasonable rate. It is therefore prescribed that rewards for the several units of protection be calculated at this rate.

335. *Fines for bad protection.*—Fines for bad protection will, as hitherto, be calculated by the following formula (devised by the District Forest Officer, Khan Sahib Muhammad Habib-ul-lah Sahib Bahadur) :—

$$\text{Fine} = R - \frac{\{A-(B \times 4)\} \times R}{A}, \text{ where}$$

R=the maximum reward in rupees fixed for the village.
A=the area of forest in acres allotted to the village.
B=the number of acres in A which have been burned during the year.
R and A are constants and it has been prescribed above that R shall be calculated at a rate of Re. 1 per 100 acres.

The formula is based on the assumption that payment of rewards to any village is not justifiable if one quarter, or more, of the area of forest allotted to it is burnt during the year.

Example.—The area allotted to Nadur village of the Tiruppattur range is 2,800 acres. The maximum reward payable at Re. 1 per 100 acres is Rs. 28. It is assumed that 200 acres has been burnt during the year. The fine to be deducted from the maximum reward payable is thus.

$$\text{Rs. } R - \frac{\{(A-(B \times 4)\}}{A}$$

$$= \text{Rs. } 28 - \frac{\{2{,}800-(200 \times 4)\} \times 28}{2{,}800}$$

$$= \text{Rs. } 28 - \frac{\{2{,}800-800\} \times 28}{2{,}800}$$

$$= \text{Rs. } 28 - \frac{2{,}000 \times 28}{2{,}800}$$

$$= \text{Rs. } 28 - 20 = \text{Rs. } 8\text{-}0\text{-}0.$$

336. *Payment of rewards.*—There is occasional risk from fire in June, but after the end of June it may be taken that the forests are safe from fire. Burnt areas will have been inspected shortly after the occurrence of each fire, and reports submitted from time to time during the fire season. It is important that as short a time as possible should lapse between the close of the fire season and the disbursement of rewards for successful protection, so that the object of paying rewards and the reasons for imposing fines are still fresh in the minds of the villagers. Reward lists will therefore be submitted by Range Officers early in August; and, allowing for unforeseen delays and the time required for obtaining the Conservator's sanction, rewards will be disbursed early in October, that is three months after the close of the fire season and not twelve months or so as is customary at present.

337. *Fire protection of fuel coupes which have been regenerated with rab sowings.*—Fuel coupes in the Alangayam, Tiruppattur and Chengam ranges, which have been regenerated with rab sowings, will be fire protected for seven years from the year of felling. Each coupe need not be protected separately; fire lines should run round each group of coupes. A width of 10 feet is suggested. Fire protection of coupes in the Krishnagiri range is unnecesary.

General protection.

338. *Areas in which undertaken.*—General protection will be undertaken in all areas where Special protection is not prescribed.

339. *Fire tracing important foot paths.*—The following foot paths will be fire traced to a width half of a chain on either side. The work will be done as early as possible in the fire season :—

Range.	Name and description.	Approximate length. M.	F.	Average annual cost of operations. RS.	A.	P.
Alangayam	Jolarpet—Kottur (Konakkal path), through the Nagaluthu reserve and its extension.	0	6	5	4	0
Tiruppattur	Melaitiruppattur—Chinnasamudram	3	4			
	Thurinjikuppam—Nadukuppam	3	4	11	0	0
	Andiappanur—Nadur	4	0			
Chengam	Paramanandal—Melpattu bridle path, from the reserve line near Paramanandal.	3	2	36	0	0

SECTION 2.—ROADS, BUILDINGS AND WELLS.

340. *Existing roads.*—All existing roads (paragraph 181 above) will be kept in a state of repair. The Gillman road, from Alangayam to the common boundary between the Vellore East and Vellore West Divisions, has been metalled in places, but there are still some places which are almost impassable during rains. As this road is the chief route up the Javadis it is most important that it should be made passable throughout the year.

341. *Proposed roads.*—The construction of the following new roads is proposed :—

Name.	Approximate length.	Reasons for construction.	Estimated cost (approximate).
	MILES.		RS.
1 Kambugudi to Puliyanur via Pudur and Melaitiruppattur (along the Tiruppattur plateau).	26	Extraction of bamboos and sandalwood. It would also facilitate touring. It was proposed in Mr. Wilson's Sandalwood Working Plan in 1915.	13,000 (at 500 a mile).
2 Kuttathur to Paramanandal via Puliyanur and Melpet (along the Thenmalai plateau).	16	Do.	12,800 (at 800 a mile).
3 Kavalur to Bandirevu (down the Cheyyar valley to meet an existing cart-track to Paramanandal).	6	Extraction of bamboos and sandalwood.	3,000 (at 500 a mile).
4 Rajapalayam to Serkanur	7	Extraction of bamboos and sandalwood. It would also facilitate inspections of the lower western slopes of the Javadis.	2,100 (at 300 a mile).

342. *Existing buildings.*—All existing buildings (paragraph 182 above) will be kept in a state of repair and their surroundings kept clear of undergrowth as an anti-malarial measure (vide C.C.P.L. Dis. No. 615/29, dated 9th August 1929). It is necessary that the supply of furniture in rest houses and inspection sheds should be standardized, the principle being to provide for two officers in two room buildings and for one when there is a single room. If funds permit, this should be done within a period of three years.

343. *Proposed buildings.*—The construction of the following buildings is proposed :—

Name and location. (1)	Description. (2)	Reasons for construction. (3)	Estimated cost (approximate). (4)
			RS.
1 Inspection shed at Chinnasamudram (construction already approved by the Chief Conservator).	Semi-permanent (Type design I-B, as standardized by the Forest Engineer, i.e., Random rubble walls and 9 inches thatch roof over bamboo ceiling mats and bamboo rafters).	For inspection of eastern slopes of the Tiruppattur Javadis.	1,000 + say 20 per cent for additional lead + 400 for a well.
2 Inspection shed at Bandirevu.	Do.	For inspection of eastern slopes of the Tiruppattur Javadis also inspection of western slope of the Tenmalais.	Do.
3 Range Officer's quarters at Chengam.	Permanent (Similar to quarters constructed at Alangayam).	No suitable accommodation is available in the town.	3,600 + 400 for a well.
4 Range Clerk's quarters at Chengam.	Do.	Accommodation very difficult to obtain in the town.	1,210
5 Range Officer's quarters at Tiruppattur.	Do.	Do.	3,600
6 Range office at Tiruppattur.	Permanent (Random rubble or brick in mud mortar walls and country tile roof).	Range office at present situated in the Sandalwood depot which arrangement carries with it a certain amount of risk.	2,000
7 Combined Foresters and Forest Guard's quarters (a line of three rooms) in Periya Kilpet Hill village of Chengam range.	Do.	Accommodation not available in the village.	2,500

344. *Wells.*—Existing wells (paragraph 183 above) should be cleaned annually ; and deepened and repaired from time to time. The construction of the new wells has been dealt with in the proposals, in the preceding paragraph, for the construction of new buildings.

SECTION 3.—MISCELLANEOUS PRESCRIPTIONS.

345. *Green leaf manure experimental plantations.*—In order to meet the demand for green leaf manure in the Krishnagiri range an experimental plantation was started in 1936 in Nandibanda fuel coupe XII. The area contained stunted and scattered growth of *Albizzia amara, Chloroxylon swietenia, Dodonea viscosa, Cassia auriculata, Randia sp.* and some *Euphorbias*. An area of 5 acres was clear-felled, the saleable fuel billetted and sold and the slash burnt by the 1st of July. On the 11th of July the area was ploughed and harrowed so that the soil was well mixed with the ash, and then stacked 6 feet × 6 feet. Between the 2nd and the 15th of August seed of *Cassia siamea* and *Poinciana elata* were sown at stake in 1-foot square patches in alternate lines. On the 19th of October healthy seedlings were found in 2,120 *Cassia* patches and 275 *Poinciana* patches.

346. The experiment has been laid out in consultation with the provincial Silviculturist who has proposed to open 5-acre plantations each year for the next six years on the assumption that the plantations can be lopped fairly heavily when they are about 7 years old. The proposal has however been made with the condition that after three years it is to be decided whether to carry on or not. The experiment will continue on the lines already indicated.

347. *Demand for green wood for the manufacture of combs.*—There is a small demand, estimated at 50 headloads a month, in Andiappanur and Alangayam, for green wood of the following species for the manufacture of combs :—

Canthium didymum	*Randia dumetorum*
Premna tomentosa	*Pleurostylia wightii.*

Permits for removals from the Andiappanur reserve will be issued under the orders of the District Forest Officer at 2 annas per headload, subject to the following conditions :—

(*a*) Only the above species and nothing over 24 inches in girth will be cut.
(*b*) Cutting shall be done flush with the ground.
(*c*) Removals will be by headloads only.
(*d*) Permits will be issued only for the purpose of making combs.

348. *Lantana.*—Lantana covers an area of about 6,400 acres in four principal localities (paragraph 48 above) and occurs in its densest form on the western slopes of the Yelagiris. It is liable to become a serious pest, but as yet no method of eradicating it at a reasonable cost has been discovered, except perhaps some form of *taungya*, which can however only be applied on a limited scale. Owing to the availability of cultivable land within village limits, the ' malayalis ' of the Javadis and Yelagiris are generally averse to *taungya* cultivation ; but should the demand arise for more cultivable land, the District Forest Officer should not lose the opportunity of opening *taungya* settlements in suitable areas now deluged with lantana.

349. *Sandalwood trees occurring outside the Sandal Working Circle.*—It has been recorded in paragraph 210 above that small patches of sandal, growing in plain forests under obviously unfavourable conditions, have been excluded from the Sandal Working Circle as it is unlikely that the trees will produce sufficient heartwood to render exploitation profitable. Isolated trees also occur. Occasionally, however, it may be found that a dead tree does contain sufficient heartwood to justify its uprootal, cleaning and transport. In such cases trees will be dealt with as has been prescribed for the Sandal Working Circle.

350. *Removal of silt from tank beds and manure from pens.*—In accordance with Government Order, Miscellaneous No. 778, dated 25th March 1938 (Appendix X), the removal of silt from tank beds and manure from pens will be permitted on payment of a fee of annas 2 and annas 4 per cartload of silt and manure respectively.

351. *Maintenance of boundaries.*—Reserve boundaries will be cleared and maintained by subordinates and no extra expenditure should be incurred under this head. Mention has been made in paragraphs 220 to 222 above of the work now being done by the Madras Survey department in reconciling discrepancies in the boundaries of survey fields and of the necessity, on completion of the work, for making necessary corrections in the village and working maps.

SECTION 4.—CONTROL.

352. *General.*—The correct and regular posting of control records and maps is most important and must receive the personal attention of the District Forest Officer. The controls prescribed in the following paragraphs will be maintained as laid down for each working circle separately or for the working plan area as a whole. The forms to be used are given in Appendix XI and the required number of printed blank forms, with the prescriptions for the working plan period written up, where feasible, by the Working Plan Officer, are being supplied to the District Forest Officer with a copy of the Working Plan.

353. *Sandal Working Circle.*—

(i) *Control of fellings, Form No. VIII, Appendix XI (a).*—A separate form will be used for each felling series and also for the villages situated in each range. Columns 1 to 3 have been written up in the blank forms for the whole working plan period. The District Forest Officer will write up column 4 and if there is a deviation quote the authority in column 5 when sanction is received. Sample entries are given in the form in the Appendix.

(ii) *Record of yield, Form No. VIII (a), Appendix XI (b).*—*All columns will be written up by the District Forest Officer. Sample entries for 1937–38 are given in columns, 1 to 4 of the form in the Appendix.

(iii) *Felling Series Journal, Form IX, Appendix XI (c).*—All columns will be written up by the District Forest Officer. A separate form will be used for each girth class in each felling series or in the villages of each range. Sample entries and posting instructions are given in the form in the Appendix.

354. As no regeneration operations are prescribed, no control of regeneration is necessary. As enumeration and climber cutting automatically precede extraction it will suffice if these items are recorded in the Record of Works [paragraph 359 (i) below].

355. *Fuel and Small Timber Working Circle.*—

(i) *Control of Fellings, Form XI, Appendix XI (d).*—A separate form will be used for each felling series. Columns 1 and 2 have been written up in blank forms for the whole working plan period. The District Forest Officer will write up columns 3 to 6 as each coupe is worked and will record in column 6 the reason for any area remaining unworked and quote the authority for any deviations.

(ii) *Record of yield, Form XI (a), Appendix XI (e).*—* The form merely records yields from areas actually worked. A separate form will be used for each felling series. Columns 2 and 3 will show such areas and the whole form will be filled in by the District Forest Officer. Deviations are dealt with in Form XI and will not appear in column 5 of this form. In order to complete the form every contractor shall be required to furnish by the 15th of each month a statement showing the number of stacks of firewood [the dimensions of which will have been fixed by the District Forest Officer—vide paragraph 255 (ii) above] and the number of cubic feet of small timber removed from his coupe in the previous month.

(iii) *Control of rab regeneration, Form XII, Appendix XI (f).*—The present *rab* regeneration ledger, showing much detail of the number and height of surviving seedlings at various periods is of no help. It means little to know that so many thousand seedlings of so many inches survived at given periods. Form XII will indicate what has been done and the results achieved will be recorded in the form of brief narrative notes in the Control Journal [paragraph 359 (ii) below]. A separate form will be used for each felling series and will be written up by the District Forest Officer.

(iv) *Recording worked areas on fuel working maps.*—The coupes or parts thereof, felled each year will be recorded on the fuel working maps in red waterproof ink by parallel horizontal lines about 1/16th of an inch apart. This will be done on both the range and district maps. The area in acres need not be marked in as this would overcrowd the map with unnecessary details.

356. *Bamboo Working Circle.*—

(i) *Control of Fellings, Form XIII, Appendix XI (g).*—A separate form will be used for each felling series. The District Forest Officer will write up columns 2 to 4 as each coupe is worked and if there is a deviation quote the authority in column 5 when sanction is received.

(ii) *Record of yield, Form XIII (a), Appendix XI (h).*—* The form merely records yields from areas actually worked. A separate form will be used for each felling series. Columns 2 and 3 will show the areas worked and the whole form will be filled in by the District Forest Officer. Deviations are dealt with in Form XIII and will not appear in column 5 of this form. In order to complete the form every contractor shall be required to furnish by the 15th of each month a statement showing the quantities of bamboo, *Bambusa arundinacea* and *Dendrocalamus strictus* separately removed by him in the previous month. The denominations of quantities, i.e., cartloads, headloads or culms, should be clearly recorded.

* This form is not strictly a control form as no outturn check is prescribed. But it is necessary to record an abstract of yields, and desirable to compare it with the working plan estimate. To record the yield in the Control Form would make it too cumbersome.

357. *Minor Forest Produce Working Circle.*—

(i) *Control of working, Form XIV, Appendix XI (i).*—Columns (1) and (2) have been written up in the blank forms as shown in the Appendix. The District Forest Officer will record the year in column (3) as each sale unit (range, block, rest house, road margin or poramboke) is sold and, if there is a deviation, quote the authority in column (4) when sanction is received. A separate form need not be used for each year ; sufficient space has been left against each sale unit in the blank forms for use during the working plan period.

When any particular product, for which a special demand may have arisen, is singled out and sold separately, a brief note should be recorded in column (4).

(ii) *Record of yield, Form XIV (a), Appendix XI (j).*—* The form merely records the quantities of the various products collected in each range every year. Products have been grouped together under maunds, measures, cartloads and pounds. This is in accordance with the custom prevailing in the local markets. Columns (1) and (2) have been written up in the blank forms as shown in the Appendix for the working plan period and the District Forest Officer will fill in the other columns each year. Every contractor shall be required to furnish by the 15th of each month a statement showing the quantity of each product removed by him in the previous month.

358. *Grazing Working Circle.*—

Control of grazing, Form XVI, Appendix XI (k).—The two prescriptions which require control are closure of certain areas and the continuance of concessions. These are provided for in the Control form. Columns (1) to (3) have been written up in the blank forms for the working plan period. The District Forest Officer will write up columns (4) to (6) each year. Sample entries are given in the form in the Appendix. Deviations, if any, with authority, should be recorded in column (6).

359. *The Whole Working Plan area.*—

(i) *Record of Works, Appendix XI (l).*—Will be maintained in a loose leaf file. Separate sheets will be allotted for each year and for each Working Circle and for Miscellaneous, but not for each felling series. It will not repeat information already given in the foregoing control forms. 'Measures prescribed', 'suggested' and 'done but not prescribed or suggested' will each have a sheet of its own under each Working Circle and Miscellaneous. The form to be used is given in the Appendix. Columns (1) and (2) have been written up in the blank forms, as shown in the Appendix, for the working plan period and the District Forest Officer will complete columns (3) to (7).

(ii) *Control Journal, Appendix XI (m).*—Will also be maintained in a loose leaf file and will give a detailed account of the operations of the working plan. The Journal is intended to give the District Forest Officer an opportunity for recording suggestions for modification and improvement in the methods of working which have been prescribed, and if properly maintained should be of great help at the next revision of the working plan. Separate pages will be allotted for each Working Circle, Miscellaneous, Establishment and Labour and Financial Results. Notes should be brief and of interest, needless and useless remarks should be avoided. The headings noted in the Appendix are suggested as a guide.

(iii) *Deviation Statement, Appendix XI (n).*—Will be written up in the form prescribed in the Appendix and maintained in a loose leaf register. A spare copy of the Deviation Statement will accompany the control returns sent by the District Forest Officer through the Territorial Conservator to the Working Plans Conservator. The Territorial Conservator will record any remarks he has to make on the Deviation Statement and the Working Plans Conservator will submit the statement with his remarks and recommendations to the Chief Conservator, who will communicate copies of his orders on it to all three officers.

On receipt of the Chief Conservator's orders the District Forest Officer will quote the Chief Conservator's order in the remarks column of the control forms against deviation items hitherto pending sanction.

Only serious deviations need the Chief Conservator's prior sanction. Minor ones will have already been sanctioned by the Conservator, or will be sanctioned on the Deviation Statement. A good deal of correspondence will thus be avoided.

(iv) *Fire Map.*—A fire map for the whole division on a scale of 1 inch to 1 mile will be maintained in the District Forest Office. Burnt areas will be marked in as soon as fire occurrence reports are received from Range Officers, a different symbol or colour being used for each year.

---

* This form is not strictly a control form as no outturn check is prescribed. But it is necessary to record an abstract of yields, and desirable to compare it with the working plan estimate. To record the yield in the Control Form would make it too cumbersome.

Statement of Revenue and Expenditure for the ten-year period 1937–38 to 1946–47.

Working circle or area.	Revenue. By sale of	Rate.	Amount.	Paragraph reference and remarks.	Expenditure. Particulars.	Rate.	Amount.	Paragraph reference and remarks.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			RS.				RS.	
Sandal Working Circle.	620 tons* sandal-wood.	Rs. 650 per ton.	4,03,000	* Paragraph 223.	*Conservancy and works.*			
				The rate has been estimated with reference to the prices obtained during the three-year period, 1934–35 to 1936–37, the average of which is about Rs. 652 per ton.	Clearing coupe boundaries ..	Rs. 6–8–0 a mile for original clearing and Rs. 3 for re-clearing.	581	The amount represents the estimated expenditure for the ten-year period. The length of line to be cleared annually varies. Paragraph 225.
					Marking and enumerating dead trees for extraction over 93,361 acres.*	Half-anna per acre.	2,918	* Sum of the figures in column (25) of the statement in paragraph 229.
					Extraction, rough cleaning and transport to the sale depot at Tiruppattur, including re-weighing, final cleaning and storage, 620 tons.	Rs. 45–10–0 per ton. *	28,288	* Sum of rates for the various operations involved. Paragraph 98 (ii) to (vii).
					Climber cutting over 46,680 acres.	Half-anna per acre.	1,459	Paragraph 232.
					Fire protection of sandal in areas where bamboo has flowered and died.	Rs. 50 annually.	500	Paragraph 235.
Fuel and Small Timber Working Circle.	7,270 acres* in 11 regular felling series (reserve series have not been included).	Rs. 4 per acre.	29,080	* Sum of the areas in columns (4) to (13) of the statement in paragraph 246.	Providing and erecting coupe stones at 4 stones per coupe for 11 coupes.	Rs. 2 per stone.	880	Paragraph 275.
				The average rate per acre obtained for the three-year period, 1933–34 to 1935–36, is Rs. 3–6–0. Against this must be considered the fact that poorer areas have not been included for working during the next 10 years. A rate of Rs. 4 has therefore been adopted.	Artificial regeneration by *rab* sowings, in patches, over 7,270 acres, including cost of seed collection, heaping and burning slash, soil preparation, sowing, weeding and tending (if necessary) and soil aeration.	6 annas per acre.	2,726	Paragraphs 258–269.
Bamboo Working Circle.	159,206 acres * in 25 felling series worked on a 3-year rotation.	..	1,39,650	* Sum of the areas in column (5) of the statement in paragraph 290. Amount based on the average annual revenue for the three-year period, 1933–34 to 1935–36.	....	..	..	....
Minor Forest Produce Working Circle.	Minor forest produce, including green leaf manure, throughout the division.	..	1,08,490	Do.	....	..	..	....
Grazing Working Circle.	Grazing permits (including grazing fees collected under the Forest Village System).	..	1,24,425	Amount based on the average annual revenue for the three-year period, 1933–34 to 1935–36, and calculated at half rates in accordance with G.O. No. 836, Press, Development, dated 29th March 1938.	Refund of grazing fees collected under the Forest Village System.	..	17,815	Paragraphs 318 and 319. The amount is based on the sum of the figures noted in column (4) of the statement in Appendix V.
					Improvement of watering facilities in grazing areas.	..	2,640	Paragraph 327.
The whole division.	Miscellaneous items, timber and fuel from unreserves, fines, forfeitures, land leases, etc.	..	78,100	Amount based on the average annual revenue for the three-year period, 1933–34 to 1935–36.	Fire protection— Payment of fire rewards 433,700 acres.	Re. 1 per 100 acres.	4,337	Paragraphs 333 and 334.
					Fire protection of *rab* regenerated fuel coupes in the Alangayam, Tiruppattur and Chengam ranges for seven years after sowing 24,182 acres (i.e. seven times the area to be regenerated during the ten-year period.)	Half anna per acre.	756	Paragraph 337. The rate is based on the cost of work done during the last four years, 1932–33 to 1935–36.
					Fire tracing important footpaths.	..	523	Paragraph 339.
					Pay of reserve watchers— Annually { 28 .. .. / 6 .. .. / 5 .. .. }	Rs. 12 per month. / Rs. 10 per month. / Rs. 9 per month.	52,920	....
					Experiments	Lump sum ..	1,000	Provided for green leaf manure experiments, paragraphs 345 and 346, and other unforeseen expenditure.
					Maintenance of existing roads.	..	14,500	Paragraph 340. Amount based on figures furnished in column (6) of the statement in paragraph 181. To round off to Rs. 1,450 annually, allowance at Rs. 69 a year has been made for the road from the Komittiyur-Patrakad road to Kuttathur (item 8 of the statement).
					Maintenance of existing buildings.	..	13,250	Paragraph 342. Amount based on figures furnished in column (6) of the statement in paragraph 182. To round off to Rs. 1,325 annually, allowance at Rs. 17 a year has been made for the District Forest Officer extension for which no data are available.
					Maintenance of existing wells.		3,000	Paragraph 344. The figures noted in column (5) of the statement in paragraph 183 show an average annual maintenance figure of Rs. 273. As some of the wells have not been cleaned regularly in the past, this figure is rounded off to Rs. 300.

CHAPTER VIII.—ESTABLISHMENT AND LABOUR.

360. *Establishment.*—No additional establishment is prescribed.

361. *Labour.*—No prescriptions are necessary, but every endeavour should be made to see that the Forest Village System works satisfactorily on the Javadis, Tenmalais and Yelagiris. Those villages which have withdrawn from the system, and also new villages, should wherever possible be induced to return to, or join it. Prompt payment of fire rewards and wages for work done will go a long way to securing this.

CHAPTER IX.—FINANCIAL FORECAST AND COST OF WORKING PLAN.

362. *Financial forecast.*—The following statement shows the estimated revenue and expenditure for the period of this Working Plan. From the statement in paragraph 190 it is seen that sandal and bamboos contribute 35 per cent and 19 per cent respectively to the revenue of the division. It must be remembered that the revenue derived from sandal depends on a fluctuating demand ; while, in view of the present flowering of bamboo, it is possible that there may be a considerable reduction in the revenue under this head. Reserve fuel series have not been taken into account in framing the estimate.

Statement of Revenue and Expenditure for the ten-year period 1937–38 to 1946–47—*cont.*

Working circle of area.	Revenue.				Expenditure.			
	By sale of	Rate.	Amount.	Paragraph reference and remarks.	Particulars.	Rate.	Amount.	Paragraph reference and remarks.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			RS.				RS.	
					Pay of rest-house watchers— Annually 1	Rs. 12 per month.	9,840	....
					Annually 5	Rs. 8 per month.		
					Annually 6	Rs. 5 per month.		
					Construction of new roads— Kambugudi-Puliyanur, 26 miles.	..	13,000	Paragraph 341.
					Kuttathur-Paramanandal, 16 miles.	..	12,800	
					Kavalur-Bandirevu, 6 miles.	..	3,000	
					Rajapalayam-Serkanur, 7 miles.	..	2,100	
					Construction of new buildings including wells— Inspection shed at Chinnasamudram.	..	1,600	Paragraph 342.
					Inspection shed at Bandirevu.	..	1,600	
					Range Officer's quarters at Chengam.	..	4,000	
					Range Clerk's quarters at Chengam.	..	1,210	
					Range Officer's quarters at Tiruppattur.	..	3,600	
					Range Office at Tiruppattur.	..	2,000	
					Combined Foresters' and Forest Guards' quarters in Periyakilpat hill village of Chengam range.	..	2,500	
					Establishment	..	5,20,716	Amount based on the average for the three-year period, 1933–34 to 1935–36 [column (11) of statement in paragraph 190].
					Miscellaneous items— Repairs and renewals of stores, tools, etc., honoraria, contingencies, etc.	..	2,700	Amount based on the average for the three-year period, 1933–34 to 1935–36 [column (14) of statement in paragraph 190].
	Total, revenue ..		**8,82,745**		Total, expenditure ..		**7,28,759**	

Abstract.

(*a*) Including estimated cost of new roads and buildings—

			RS.	
Estimated Revenue for ten-year period 1937–38 to 1946–47.			8,82,745	
,,	Expenditure	do.	7,28,759	
,,	Profit	do.	1,53,986	
,,	Annual profit	do.	15,399	or Rs. 44–0–11 per square mile of reserve forest, or Re. 0–1–1 per acre.

(*b*) Excluding estimated cost of new roads and buildings—

Estimated Revenue for ten-year period 1937–38 to 1946–47.			8,82,745	
,,	Expenditure	do.	6,81,349	
,,	Profit	do.	2,01,396	
,,	Annual profit	do.	20,140	or Rs. 57–10–0 per square mile of reserve forest or Re. 0–1–5 per acre.

363. *Cost of working plan.*—The cost of the working plan is Rs. 50,072–6–0. Assuming that this amount, together with compound interest at 3 per cent, is liquidated during the ten-year period to which the plan applies, the annual charge debitable to revenue would be Rs. 5,870 or 5 pies per acre of reserve forest. Actually, however, the utility of the plan should not cease after ten years as re-stock-mapping of sandal, fuel and bamboo areas will not be necessary at the next revision, which will probably be concerned with minor alterations in the prescriptions and, perhaps, small readjustments of area. Details relating to the total cost are given in the following statement :—

		RS.	A.	P.
Pay of officers	Voted.	15,523	15	0
Pay of establishment	,,	18,483	2	0
Travelling allowances	,,	5,236	5	0
Fixed travelling allowances	,,	1,459	13	0
Other allowances, compensatory (local and conveyance)	,,	1,783	10	0
Contingencies	,,	912	5	0
Field work	,,	6,673	4	0
Total	..	50,072	6	0

SUMMARY OF PRESCRIPTIONS.

SANDAL WORKING CIRCLE.

		Number of paragraph in Working Plan.
1	*Silvicultural system.*—A modification of the Selection System consisting of the removal of dead trees only and of the maintenance and improvement of the growing stock by rigid protection and cutting climbers where necessary ..	212–214
2	*Felling cycle.*—Three years for the Yelagiris and six years for the Javadis. Survey fields, in which sandalwood trees are the property of Government, to be visited annually	215
3	*Felling series.*—Reserves and unreserves divided into ten Felling Series	216
4	*Allocation of coupes.*—The Yelagiri Felling Series (two) divided into three coupes each and the Javadi Felling Series (eight) into six coupes each. Position of coupes shown on Sandal Working Map	217
5	*Village sandal.*—Numbers, areas, situation and classification of survey fields, in which sandalwood trees are the property of Government, given in Appendix VI and outer boundaries of each group of fields, constituting a village, or two or three villages together, shown on Sandal Working Map ..	218–221
6	*Yield.*—About 62 tons annually	222
7	*Regulation of operations.*—One coupe in each felling series and all survey fields, in which sandalwood trees are the property of the Government, to be exploited annually	223
8	*Clearing* (*and reclearing in the second felling cycle*) *coupe boundaries.*—Lines ten feet wide to be cleared where coupe boundaries do not correspond with natural or permanent artificial features, clearing (and reclearing) to be done in the year preceding extraction	224
9	*Exploitation.*—Extraction confined to dead trees, both standing and fallen, including all stumps and roots. All green fallen or broken stems and branches also to be removed	225
10	*Minimum exploitable size.*—Trees containing no heartwood not to be despatched to sale depots and no root containing heartwood of more than the size of half a rupee to be left on the ground	226
1	*Restriction of output.*—None imposed, exploitation regulated by area	227
12	*Size of coupes and years of working*	Vide tabular statement in paragraph 228 and Appendix VI.
13	*Areas of enclosures to be exploited annually*	
14	*Tending.*—No general tending prescribed. Climbers to be cut during marking for extraction	230, 231
15	*Artificial regeneration.*—None prescribed	232
16	*Fire protection.*—Included in that of the division as a whole. In addition bamboo flowering centres to be carefully watched and District Forest Officer to undertake such measures for protection, as may be necessary, at a cost not exceeding Rs. 50 annually	233, 234
17	*Measures for the prevention of the spread of spike disease.*—To be undertaken in accordance with Standing Orders communicated in Chief Conservator's Proceedings No. 26, Press, dated 27th June 1936 (Appendix VII)	235
18	*Retail sales of sandalwood.*—Present practice of selling small billets in District Forest Office to continue. Range Officers, Alangayam, Chengam and Krishnagiri also to be authorized to sell limited quantities. Stock with Head Clerk, District Forest Office, and Range Officers to be limited to 100 billets each	236, 237

FUEL AND SMALL TIMBER WORKING CIRCLE.

1	*Silvicultural system.*—Simple coppice with reservation of sandal, minor forest produce and bark yielding trees	240
2	*Felling series.*—Twenty-two, 11 " Regular " and 11 " Reserve "	241, 242
3	*Rotation.*—40 years	243
4	*Size and allocation of coupes.*—Only 10 coupes in each Regular felling series allocated. Areas given in statement in paragraph 246	244

		Number of paragraph in Working Plan.
5	*Calculation of yield.*—Based on actuals of last 11 years	245
6	*Regulation of operations.*—One coupe in each of the regular felling series and one in each of the reserve felling series, if there is a demand, to be felled annually.	246
7	*Laying out and demarcation of coupes.*—Coupes to be surveyed and demarcated in the year preceding that of felling	247
8	*Agency of felling.*—Contractors. Coupes to be sold in sufficient time to permit of purchasers beginning felling on, or as soon as possible after, 1st April. Where there is demand for green leaves for manure, coupes to be sold three months in advance	248
9	*Area remaining unfelled on the termination of a lease.*—The unfelled portion of a coupe, unless it contains poor growth, to be leased to the contractor to whom the adjoining coupe has been sold, and to him only. Should he refuse, the area to be left unworked	249
10	*Cutting thorny growth at time of felling.*—Complete clearing not prescribed. Provided contractor cuts enough slash for rab heaps he may leave other thorny growth uncut. Conservator may order complete clearing if he thinks fit	250, 251
11	*Useless tree species.*—Not to be felled unless occurring on or near a *rab* patch ..	252
12	*Felling rules.*—Four prescribed	253
13	*Disposal of felled material.*—Small timber to be hammer-marked by the coupe forest guard and fuel to be stacked before removal. Size of stacks to be fixed by the District Forest Officer in consultation with contractors. Cutting and removal of twigs and thorns by purchasers and consumers under headload chits issued by contractors may be permitted by District Forest Officer ..	254
14	*Artificial regeneration.*—*Rab* sowings in patches 50 to 100 feet long and 9 feet wide	256
15	*Heaping slash.*—To be done by coupe contractors wherever possible. Height of heaps 3 feet after being well compacted	257, 258
16	*Burning.*—As short a period as possible to lapse between burning and sowing ..	259
17	*Soil preparation and sowing.*—Seed to be dibbled lightly in 3 lines, $2\frac{1}{2}$ feet apart, along *rab* patch after soil has been worked to a depth of 6 inches and a width of 12 inches along each line	260
18	*Sowing on charcoal kiln sites.*—Not generally recommended but may be done along periphery of kiln site where *rab* heaps are scarce	261
19	*Choice of species.*—A mixture of two or three species at each patch. Mixture to be varied as much as possible. Selection of species left to the District Forest Officer	262
20	*Collection of seed.*—Progress to be carefully watched by the District Forest Officer. Collection to be done by subordinates or under their personal supervision	263
21	*Date of sowing.*—Half the area during the middle of September in the year of felling and the other half during the last week of the following April	264–266
22	*Weeding and tending.*—By beat subordinates	267
23	*Soil aeration.*—In September and again in February	268
24	*Supply of small timber to ryots.*—Provision to be made by contractors. Suitable clause to be inserted in coupe agreements	269
25	*Green leaf manure.*—Where there is demand coupes to be sold three months in advance of the year of felling and contractors permitted to cut and supply manure leaf therefrom	270
26	*Indicator areas.*—Not prescribed	271
27	*Closure to grazing.*—Seven years including year of felling. Grass cutting in particular areas may be permitted with the specific sanction of the Conservator	272
28	*Thorn fence round closed areas and along rights of way.*—Not prescribed—Left to discretion of the management	273
29	*Coupe stones.*—Coupes to be suitably demarcated after felling	274

BAMBOO WORKING CIRCLE.

1	*Felling cycle.*—Three years	282
2	*The intensity of felling in a clump.*—Current year's culms not to be cut and a minimum of four mature culms to be left in each clump	283
3	*The height at which culms should be cut.*—Two or three feet from the ground ..	284
4	*Yield.*—No forecast made	286

	Number of paragraph in Working Plan.
5 *Subdivision of the area.*—Twenty-five felling series, in which are included certain unreserves	287–289
6 *Regulation of fellings.*—Generally through contractors, one coupe in each felling series to be worked annually. Departmental working, if expedient, left to the discretion of the District Forest Officer	290
7 *Period of lease.*—District Forest Officer to decide whether annual or triennial leases should be adopted. Conservator to be consulted	291
8 *Hacking of Dendrocalamus strictus.*—Severe punitive action to be taken against the malayalis in blocks where damage is bad. Also suggested that graziers be prohibited from carrying bill hooks	293
9 *Over-working by contractors.*—Imposition of heavy fines suggested	294
10 *The construction of new roads and extraction cart-tracks.*—Contractors to obtain the District Forest Officer's approval before constructing a new cart-track. Range Officers to be instructed to align suitable traces for contractors, if necessary, free. See also Miscellaneous Regulations	295, 296
11 *Grazing.*—No restriction imposed	297
12 *Fire protection.*—Included in the general scheme of protection for the division—See Miscellaneous Regulations. Special vigilance to be exercised during the fire season in areas where bamboo has flowered and died	298, 299
MINOR FOREST PRODUCE WORKING CIRCLE.	
1 *Unreserves.*—Unreserves included, throughout the division for the collection of konnai, avaram and sural barks, and gallnuts ; in the Krishnagiri range for nuxvomica and on the Javadi, Thenmalai and Yelagiri hills for all kinds of produce	300
2 *Subdivision of the area and units of sale.*—Barks and gallnuts to be sold by ranges. The Krishnagiri range to constitute separate sale unit for nuxvomica, which in the other three ranges will be sold by blocks. All other products to be sold by blocks. Reserves and unreserves, where included, divided into 15 blocks. Rest house compounds, road margins, etc., separate sale units	301, 302
3 *Konnai (Cassia fistula) bark.*—To be worked on four-year rotation, one range each year. Lease period one year from 1st July in year of sale	304
4 *Avaram (Cassia auriculata) bark, sural (Ventilago madraspatana) bark and gallnuts in all four ranges, and nuxvomica in the Krishnagiri range.*—To be sold in June each year. Lease period one year from 1st July in the year of sale. No objection to biennial or triennial leases	305, 306
5 *Other products including nuxvomica in the Alangayam, Tiruppattur and Chengam ranges.*—To be sold annually. Lease period one year from 1st July in the year of sale. Blocks may be sold separately or two or more clubbed together, or any one product singled out and sold separately	307
6 *Green leaf manure.*—Two blocks, 370 and 807 acres respectively, are prescribed. Three coupes in each block, one of which will be worked annually, in rotation. Coupes to be leased to contractors, if possible ; otherwise permits to be issued departmentally. Maximum rates for cartload and headload permits to be fixed by Conservator. Cutting rules prescribed. One-third of each coupe to be artificially regenerated in the year after working ; suggestions regarding species and methods made	301 to 311
7 *Supply of green leaf manure from fuel coupes.*—Where there is a demand, fuel coupes to be sold three months in advance of the usual date	312
GRAZING WORKING CIRCLE.	
1 *Constitution.*—All the reserves of the division and 10,350 acres of unreserve ..	313
2 *Prescriptions.*—Grazing year 1st July to 30th June. Goat browsing prohibited and fuel coupes closed for seven years including year of felling. Other prescriptions vary with area, and depend on whether free grazing under Forest Village System is permitted or not	316, 317
3 *Grazing concessions.*—	
(*a*) Free grazing under the Forest Village System to those villages of the Alangayam, Tiruppattur and Chengam ranges still under the system in return for protection and supply of labour	318, 319
(*b*) Definite block allotted to each village	320
(*c*) Grazing fees collected at the beginning of grazing year to be refunded in part or whole when fire protection rewards are dispersed	321
(*d*) Suitable grazing blocks to be allotted to villages which return to the system or are newly admitted to it	322

		Number of paragraph in Working Plan.
4	*Grazing on payment of the usual fees.*—	
	(*a*) To be regulated by issue of permits at rates sanctioned by Government from time to time	323
	(*b*) Difference between 'local' and 'foreign' cattle	324
	Penning of cattle on payment of fees at the rate of Re. 1 per 100 head of cattle or part thereof may be permitted in Reserved Forests. Fuel Felling Series excepted	324
5	*Cutting and removal of grass from reserves.*—Confined to long grass only and allowed free subject to definite conditions	325
6	*Closure of burnt areas.*—Detail procedure prescribed	326
7	*Improvement of watering facilities.*—	
	(*a*) Twenty-two tanks or wells to be repaired	327
	(*b*) Construction of new well in Sethaponam valley recommended	328
8	*Demarcation of closed areas.*—Areas closed to grazing to be indicated by red sign boards	329
	MISCELLANEOUS REGULATIONS.	
1	*Fire protection.*—Special protection to be undertaken in 43,370 acres, in Alangayam, Tiruppattur and Chengam ranges and general protection in the rest of the area	333 and 338
2	*Special protection.*—	
	(*a*) *Fire rewards.*—Rate fixed at Re. 1 per 100 acres	334
	(*b*) *Fines for bad protection.*—To be worked out by a special formula ..	335
	(*c*) *Payment of rewards.*—To be made early in October	336
	(*d*) *Fire lines.*—One only to be maintained, length three miles 67 chains. ..	331
	(*e*) *Fire protection of fuel coupes which have been regenerated with rab sowings.*—Fuel coupes which have been regenerated to be fire protected for seven years from the year of felling. Alangayam, Tiruppattur and Chengam ranges only	337
3	*General protection.*—Fire tracing important footpaths to be done as early as possible in the fire season.	339
4	*Existing roads.*—To be maintained	340
5	*Proposed roads.*—Four	341
6	*Existing buildings.*—To be maintained and the supply of furniture in rest houses standardized within three years if funds permit	342
7	*Proposed buildings.*—Seven	343
8	*Wells.*—Existing wells to be cleared annually deepened and repaired as required. Construction of new wells proposed with new buildings	344
9	*Green leaf manure experimental plantation.*—The 1936 experimental plantation to be continued on lines indicated	345, 346
10	*Green wood for the manufacture of combs.*—Removals by permit at 2 annas per headload subject to certain conditions	347
11	*Lantana.*—Future assignments for taungya to be made from areas deluged with lantana	348
12	*Sandalwood trees occurring outside Sandal Working Circle.*—Trees containing heartwood to be dealt with as prescribed for the Sandal Working Circle ..	349
13	*Removal of silt from tank beds and manure from pens.*—To be permitted on payment of fees of annas 2 and annas 4 per cartload of silt and manure respectively.	350
14	*Maintenance of boundaries.*—No extra expenditure to be incurred. Boundaries to be maintained by subordinates. Discrepancies in boundaries of survey fields to be corrected in village and working maps	351
15	*Control.*—Maintenance of control records and maps must receive the personal attention of the District Forest Officer	352
16	*Control forms, Sandal Working Circle.*—	
	(i) Control of Felling, Form VIII	353
	(ii) Record of yields, Form VIII (*a*)	353
	(iii) Felling Series Journal, Form IX	353
	Control forms, Fuel and Small Timber Working Circle.—	
	(i) Control of Felling, Form XI	355
	(ii) Record of yield, Form XI (*a*)	355
	(iii) Control of *Rab* Regeneration, Form XII	355
	(iv) Recording worked areas on fuel working maps	355
	Control forms, Bamboo Working Circle.—	
	(i) Control of Felling, Form XIII	356
	(ii) Record of yield, Form XIII (*a*)	356

	Number of paragraph in Working Plan.
Control forms, Minor Forest Produce Working Circle.—	
(i) Control of Working, Form XIV	357
(ii) Record of yield, Form XIV (*a*)	
Control forms, Grazing Working Circle.—	
(i) Control of grazing, Form XVI	358
Control forms, whole Working Plan area.—	
(i) Record of Works	359
(ii) Control Journal	
(iii) Deviation Statement	
(iv) Fire Map	

ESTABLISHMENT AND LABOUR.

17 *Establishment.*—No additional establishment prescribed 360

18 *Labour.*—Every endeavour to be made to work the Forest Village System satisfactorily. Fire rewards and wages to be paid promptly 361

APPENDIX I.

List of Reserves, Vellore West Division.

Range.	Reserve.		Total.	
	Name.	Area, acres.	Area, acres.	Square miles.
(1)	(2)	(3)	(4)	(5)
Alangayam ..	1 Mangalam	6,080·00		
	2 Mangalam Extension	2,550·00		
	3 Jalarpet	1,661·00		
	4 Nagaluthu	2,810·00		
	5 Nagulathu extension	1,225,00		
	6 Narasingapuram	2,187·00		
	7 Alangayam	11,590·00		
	8 Kallarapat	2,054·00		
	9 Poongulam	9,203·00		
	10 Inner Javadis (part)	10,025·00		
			49,385·00	77·16
Tiruppattur ..	1 Andiappanur	9,518·46		
	2 Inner Javadis (part)	21,383·16		
	3 Mambakkam	10, 647·00		
	4 Mambakkam extension	224·00		
	5 Govindapuram	2,304·00		
	6 Singarapet	2,636·80		
	7 Singarapet extension	6,961·30		
	8 Chinnasamudram	2,841·60		
			56,516·32	88·31
Chengam ..	1 Mudanai	7,034·98		
	2 Nallapattu	4,922·00		
	3 Paramanandal	1,516·80		
	4 Palamarathur	5,075·00		
	5 Thenmalai	28,030·13		
	6 Ponniar (part)*	21,680·00		
	7 Anandavadi	8,269·00		
	8 Ravandavadi	10,624·50		
			87,152·41	136·18
Krishnagiri ..	1 Maharajagadai	10,582·00		
	2 Maharajagadai extension ..	1,542·00		
	3 Neralakotta	6,876·00		
	4 Bargur	1,749·96		
	5 Kothur	4,206·14		
	6 Nandibanda	1,905·00		
	7 Madugampalli bit II	36·00		
	8 Neralapalli	3,736·00		
			30,633·10	47·86
	Total for division ..		223,686·83 or	349·51

* The remainder of the reserve lines in the Vellore East division.

APPENDIX II (*a*).

Order No. 1462, *Revenue, dated* 10*th June* 1907.

Forest No. 67.

The Board of Revenue submits proposals for the treatment of the occupied lands within forest reserves of the Javadi Hills in the North Arcot district and for the treatment of trees standing thereon.

2. The Government agree with the Board that the land assigned on patta, together with such land as it may be desirable to set apart for the extension of cultivation and for the exercise of communal privileges, should be retained as enclosures within the reserves. Before the boundaries are finally notified these enclosures should be inspected by the Collector or Divisional Officer to ensure that sufficient land has been allowed for the extension of cultivation and for the exercise of communal privileges and by the District Forest Officer to verify the suitability and accuracy of the boundary determined.

3. The Government do not approve of the Conservator's suggestion that the enclosures, as finally settled, should be notified by the publication of errata to the original forest settlement notifications. They consider that the enclosures should be formally disafforested. The Board will accordingly be requested to submit, in due course, a statement showing the area originally admitted and that now allowed under the heads, occupied land, unoccupied waste and poramboke in respect of each reserve, as well as the necessary disafforesting notification. The Board should also submit a sketch showing the position of all enclosures in the reserves. As observed in paragraph 6 of the Board's reference, the issue of pattas already sanctioned by Government need not be delayed.

4. The Board's recommendations that all trees except sandal may be made over to the cultivators without collection of tree value and that the ownership of sandal trees wherever situated should be reserved to Government, are accepted. A condition should be entered in the pattas to the effect that the pattadar has no right to any sandal trees growing on the land and if possible, an agreement should be taken from the pattadar binding him to look after the trees (vide paragraph 7 of Board's Proceedings, Forest No. 14, dated 19th January 1907).

5. The Government approve of the Board's proposal to cancel ordinary as well as bilmukta pattas for trees located on land held on patta or yearly (sivoijama) tenure.

(True extract.)

APPENDIX II (*b*).

Copy of letter R.O.C. No. 1373/17, dated 20th February 1918 from the Conservator of Forests, Southern Circle, to the Secretary to the Commissioner of Land Revenue and Forests, Madras, and of B.P. thereon, *Forest No.* 134, *Miscellaneous, dated* 11*th April* 1918.

Letter No. 1373/17, *dated* 20*th February* 1918.

[Ref. Board's Reference No. 2571/16–17, dated 13th December 1917.

I have the honour to state that in their Order No. 2626, Revenue, dated 28th August 1917, the Government while approving the proposal of the Board of Revenue in the Land Revenue Department to exclude the Yelagiri hill villages from the operation of the waste land rules and to introduce the ordinary darkhast rules in their stead, laid down that future assignments of waste lands in the villages should be strictly confined to the Malayalees.

2. In reporting on this matter the Board have in paragraph 4 of its reference No. 2571 of 1916-6, dated 13th December 1917, stated that the department can lay no claim to sandalwood on patta lands. Such trees, if sold to merchants, will be a constant source of danger for these hills are so close to the Railway that under cover of each purchase it will be easy for smugglers to carry wood from the Government forest under cover of such purchases.

3. This can only be avoided if all trees on the lands are purchased on behalf of Government as is done in other districts. But in order that this may be effective, it is absolutely necessary that in all future grants, sandal trees should be reserved for Government. It is on account of this provision which was made for the Polur Javadis in 1907 (vide Board's Proceedings, Forest No. 119, dated 20th June 1907) that we have on this side of the Javadis no trouble concerning the ownership of sandal and that we have been able to introduce such a successful village system. If the ordinary darkhast rules and payment for trees is insisted on we shall have the same difficulties which occurred in the North Coimbatore and the Tiruppattur-Javadis and elsewhere. A high valuation will be placed on sandal and the Malayalee will not pay it. He will therefore retain the land on sivoijama and either get rid of the trees or after a few years will take up new land and thus introduce the system of ponakad under the name of sivoijama cultivation.

4. This is my opinion only to be avoided if the trees are reserved for Government. Trees can then be allowed to grow in the hedge rows and rocky parts of the cultivation and both the Malayalees and the Department will benefit as the trees will be removed by the Department as they mature and Malayalees will obtain a bonus for conserving them.

5. I, therefore, request that a clause may be added to the Board's amendment reserving all sandal in future for Government on precisely the same lines as was done for the Polur-Javadis in Board's Proceedings, Forest No. 119, dated 20th June 1907.

PROCEEDINGS OF THE BOARD OF REVENUE (LAND REVENUE).

Forest No. 134, Miscellaneous, dated 11th April 1918.

The Hon. Mr. A. Butterworth, c.s.i., I.C.S.,
Commissioner of Land Revenue.

The Hon. Mr. M. E. Couchman, I.C.S.,
Commissioner of Land Revenue and Forest.

Read—B.P. L.R. No. 96, Miscellaneous, dated 21st January 1918.

And letter from the Conservator of Forests, Southern Circle, No. 1373/17, dated 20th February 1918.

Resolution.—The Board of Revenue agrees with the Conservator that, in respect of future assignments under the darkhast rules, the rights of Government over sandal trees in the Yelagiri hills should be adequately protected. In order to secure this object, a condition should be inserted in the pattas under B.S.O. No. 18 reserving the sandal trees to Government in the same manner as has been laid down in G.O. No. 1462, Revenue, dated 10th June 1907 (B.P. Forest No. 119, Press, dated 20th June 1907), in respect of darkhast grants in the Javadi Hill villages.

2. The Board does not consider that any amendment to the B.S.O. is called as suggested by the Conservator in paragraph 5 of his letter.

(True extract.)

APPENDIX II (*c*).

Order No. 1497, *Revenue, dated 20th May* 1911.

Forest No. 100.

The notification disafforesting a portion of the Thenmalai reserved forest in the Tiruvannamalai taluk will be published in the Fort St. George and North Arcot District Gazettes.

2. The Government accept the Board's recommendation in paragraph 3 of its proceedings read above that all trees except sandal on patta lands should be made over to the Malayalees, without collection of tree-value, but that the ownership of sandalwood trees, wherever they may be found, should be reserved to Government. The Government observe from the Collector's letter R. Dis. No. 25, Forest, dated 10th October 1909, that the Collector proposes to issue patta for all lands now actually cultivated by the Malayalees.

(True extract.)

APPENDIX III.

BOTANICAL LISTS.

(a) *Arranged alphabetically according to genera.*

Botanical name.	Tamil name.	Natural order.
	A. Trees.	
Acacia arabica	Karuvela maram	*Leguminosæ.*
Acacia ferruginea	Paramba maram	*Do.*
Acacia leucophloea	Vel-velammaram, Sarai maram	*Do.*
Acacia lenticularis	....	*Do.*
Acacia senegal	....	*Do.*
Acacia sundra	Karungali maram	*Do.*
Adina cordifolia	Manjakadambai maram	*Rubiaceæ.*
Aegle marmelos	Bilva maram	*Rutaceæ.*
Ailanthus excelsa	Pee maram, Pee nari maram	*Simarubaceæ.*
Alangium lamarckii	Alingi maram	*Cornaceæ.*
Albizzia amara	Thuringi maram	*Leguminosæ.*
Albizzia lebbek	Kattu-vagai maram	*Do.*
Albizzia odoratissima	Karu-vagai maram, Kal-thuringi maram.	*Do.*
Albizzia procera	Nal-velangu maram	*Do.*
Alseodaphne semicarpifolia	Kaka-nagai maram	*Lauraceæ.*
Alstonia scholaris	Palagaruda maram	*Apocynaceæ.*
Anacardium occidentale	Mundiriparuppu maram	*Anacardiaceæ.*
Anogeissus latifolia	Namai maram	*Combretaceæ.*
Anogeissus acuminata	Do.	*Do.*
Anona reticulata	Rama-palam maram	*Anonaceæ.*
Anona squamosa	Seetha-palam maram	*Do.*
Artocarpus integrifolia	Pela maram	*Urticaceæ.*
Balanites roxiburghii	Manjunda maram	*Simarubaceæ.*
Balsamodendron berryi	Mul-kilvai maram	*Burseraceæ.*
Bassia latifolia	Iluppai maram	*Sapotaceæ.*
Barringtonia acutangula	Kadappay maram	*Myrtaceæ.*
Bauhinia racemosa	Chitha acha maram	*Leguminosæ.*
Bombax malabaricum	Elava maram	*Malvaceæ.*
Borassus flabellifer	Panai maram	*Palmæ.*
Boswellia serrata	Dhupam maram, Kungiliam maram.	*Burseraceæ.*
Bridelia montana	Mullu-vengai maram	*Euphorbiaceæ.*
Bridelia retusa	Do.	*Do.*
Buchanania latifolia	Sara paruppu maram	*Anacardiaceæ.*
Buchanania lanceolata	Muda mali maram	*Do.*
Butea frondosa	Porasu, Muku maram	*Leguminosæ.*
Canthium didymum	Naluvai, Nekkini maram	*Rubiaceæ.*
Careya arborea	Kalkambi maram	*Myrtaceæ.*
Caryota urens	Kundalpanai maram	*Palmæ.*
Casearia tomentosa	....	*Somydaceæ.*
Cassia fistula	Konnai maram	*Leguminosæ.*
Cassia siamea	Karum-konnai maram, Pon-avarai maram.	*Do.*
Casuarina equisetifolia	Chowk maram	*Coniferæ.*
Chloroxylon swietenia	Porasu, Borasu maram	*Rutaceæ.*
Chukrasia tabularis	Arunelli maram	*Meliaceæ.*
Citrus medica	Elumuchi maram	*Rutaceæ.*
Cleistanthus collinus	Woddan maram	*Euphorbiaceæ*
Cochlospermum gossypium	Odina maram	*Bixaceæ.*
Cordia myxa	Neravali maram	*Boraginaceæ.*
Crataevareligiosa	Mavilangai maram	*Capparidaceæ.*
Dalbergia lanceolata	Velangu maram	*Leguminosæ.*
Dalbergia latifolia	Etti maram	*Do.*
Dalbergia paniculata	Pachali maram	*Do.*
Dalbergia sissoides	Sissoo maram	*Do.*
Dalbergia sissoo	Do.	*Do.*
Delonix elata	Vatanarayana maram	*Do.*
Dichrostachys cineria	Vedadara Veduthalam maram	*Do.*
Diospyros chloroxylon	Karuvakkanai maram	*Ebenaceæ.*
Diospyros melanoxylon	Thumbi, Karum-thumbi maram	*Do.*
Diospyros montana	Vakkanai maram	*Do.*
Diospyros ovalifolia	Kadu-thoomparai maram	*Do.*

A. TRESS—*cont.*

Botanical name.	Tamil name.	Natural order.
Dolichandrone crispa	....	*Bigoniaceæ.*
Dolichandrone falcata	Klarvalathu maram	*Do.*
Elæodendron glaucum	Keeri maram, Veeri maram	*Celastraceæ.*
Enterlobium saman	Mal, Thungumunji maram	*Leguminosæ.*
Eriodendron aufractuosum	Poola maram	*Malvaceæ.*
Erythrina indica	Mulmurukku maram	*Leguminosæ.*
Erythrina suberosa	Murukku maram	*Do.*
Erytheoxylon monocyrum	Chembulichamaram	*Lineæ.*
Eugenia jambolana	Nagai maram	*Myrtaceæ.*
Euphorbia trigona	Pal-kalli maram	*Euphorbiaceæ'*
Feronia elephantum	Vilva maram	*Rutaceæ.*
Ficus bengalensis	Alai maram	*Moraceæ.*
Ficus gibbosa	....	*Do.*
Ficus glomerata	Athimaram	*Do.*
Ficus hispida	Chon-athi maram	*Do.*
Ficus religiosa	Arasa maram	*Do.*
Ficus retusa	Kalluichi maram	*Do.*
Ficus triela	Kalluathi maram	*Do.*
Gardenia gummifera	Kambili-pisina maram	*Rubiaceæ.*
Gardenia latifolia	Kothu Marikalam maram	*Do.*
Garuga pinnata	Karu vembu maram	*Burseraceæ.*
Givotia rottleriformis	Velthadi maram	*Euphorbiaceæ.*
Gmelia arborea	Kummalam maram	*Verbenaceæ.*
Grewia tiliæfolia	Thadachi, Thadasu maram	*Tiliaceæ.*
Gyrocarpus americanus (*Jacquini*)	Kosu-thamaku maram	*Hernandiaceæ*
Hardwickia binata	Acha maram	*Leguminosæ*
Holarrhena antidysenterica	Karupalai maram	*Apocynaceæ.*
Holoptelea integrifolia	Thavasi maram	*Ulmaceæ.*
Hymenodictyon excelsum	Nerkadambu maram	*Rubiaceæ.*
Ixora parviflora	Kora maram	*Do.*
Kydia calycina	Pulabendi maram	*Malvaceæ.*
Lagerstrœmia lanceolata	Venthuku, Chinnarigi maram	*Lythraceæ.*
Lagerstrœmia parviflora	Pe-kadukkai maram	*Do.*
Lannea grandis	Odian maram	*Anacardiaceæ.*
Limoria acidissima	Narivala maram	*Rutaceæ.*
Limoria crenulata	Navala maram	*Do.*
Linociera intermedia	Ellukanalu maram	*Oleaceæ.*
Maba buxifolia	Chinnerumboli maram	*Ebenaceæ.*
Mallotus philipinensis	Kamalapodi maram	*Euphorbiaceæ.*
Mangifera indica	Mamaram	*Anacardiaceæ.*
Melia composita	....	*Meliaceæ.*
Melia indica	Vepa maram	*Do.*
Melia dubia	Malavembu maram	*Do.*
Memecylon umbellatum	Perum kasan maram	*Malastomaceæ.*
Memecylon edula	Kasan maram	*Do.*
Millingtonia hortensis	Mara-malli maram	*Bignoniaceæ.*
Mimusops elengi	Magadam maram	*Sapotaceæ.*
Mimusops hexandra	Palæ maram	*Do.*
Mitragyna parviflora (*Stephegyne*).	Nirkadambai maram	*Rubiaceæ.*
Morinda citrifolia	Nona maram	*Do.*
Morinda tinctoria	Manjanathi Nona maram	*Do.*
Muringa concanensis	Kattumurungai maram	*Moringaceæ.*
Muringa pterygosperma	Murungai maram	*Do.*
Murraya exotica	Kattukaruvappalai maram	*Rutaceæ.*
Murraya kœniga	Karuvappalai maram	*Do.*
Odina wodier	Oodai maram	*Anacardiaceæ.*
Olea dioica	Koli maram	*Oleaceæ.*
Olea glandulifera	Kattu Kallari maram	*Do.*
Ougenia dalbergioides	Naiponnai maram	*Leguminosæ.*
Phœnix sylvestris	Eecha maram	*Palmæ.*
Phyllanthus emblica	Nelli maram	*Eurhorbiaceæ.*
Phyllanthus polyphyllus	....	*Do.*
Pistacia oleosa	Kadal-muruchi maram	*Sapindaceæ.*
Pithecolobium dulce	Kodukkapuli maram	*Leguminosæ.*
Pithecolobium saman	Seemai kothuvai maram	*Do.*
Pittospermum floribundum	Thamattan maram	*Pittosporaceæ.*
Pleurostylia wightii	....	*Celastaceæ.*
Plumeria acutifolia	Navila maram	*Apocynaceæ.*
Polyanthia cerasoides	Kothu kala maram	*Anonaceæ.*
Pongamia glabra	Punga maram	*Leguminosæ.*
Premna tomentosa	Kolakattaitheku maram	*Verbenaceæ.*

Botanical name.	Tamil name.	Natural order.
	A. Tress—*cont.*.	
Protium candatum	Pachaikilvai maram	*Burseraceæ.*
Psidium guayava	Koyappala maram	*Myrtaceæ.*
Pterocarpus marsupium	Vengai maram	*Leguminosæ.*
Pterocarpus santalinus	Chem-maram	*Do.*
Pterospermum heyneanum	Udupai maram	*Sterculiaceæ.*
Pterospermum suberifolium	Muruvankai maram	*Do.*
Randia brandisii	Perum-karai maram	*Rubiaceæ.*
Randia ulginosa	Vagatta maram	*Do.*
Rydnocarpus wightiana	Maranathi maram	*Bixaceæ.*
Santalum album	Sandana maram	*Santalaceæ.*
Sapindus emarginatus	Poonambottai maram	*Sapindaceæ.*
Sapindus laurifolius	Karadipoongai maram	*Do.*
Schleichera trijuga	Pulatu maram	*Do.*
Schrebera swietenioides	Mogalinga maram	*Oleaceæ.*
Semecarpus anacardium	Seram-kottai maram	*Anacardiaceæ.*
Shorea talura	Jaleri maram	*Diptarocarpaceæ.*
Soymida febrifuga	Sombupattai maram	*Meliaceæ.*
Sterculia villosa	Kottai thanuku maram	*Sterculiaceæ.*
Sterculia urens	Thadachi maram	*Do.*
Stereospermum chelonoides	Poom padiri, Kolloti maram	*Bignoniaceæ.*
Stereospermum suaveolens	Padri maram	*Do.*
Stereospermum xylocarpum	Vedam-kurumai, Kodalatti maram.	*Do.*
Streblus asper	Kuttipala maram	*Moraceæ.*
Strychnos nux-vomica	Etti maram	*Leguminosæ.*
Strychnos potatorum	Thethankottai maram	*Do.*
Tamarindus indica	Pulia maram	*Do.*
Tectona grandis	Theku maram	*Verbenaceæ.*
Terminalia arjuna	Maddi, Nermaddi maram	*Combretaceæ.*
Terminalia belerica	Thani, Thandi maram	*Do.*
Terminalia chebula	Kadukai maram	*Do.*
Terminalia paniculata	Pillamarudu, Maddi maram	*Do.*
Terminalia tomentosa (*crenulata*).	Karumarudu maram	*Do.*
Thespesia populnea	Puvarasu maram	*Malvaceæ.*
Thesetia neriifolia	Thiruvachipu maram	*Apocynaceæ.*
Trewia nudiflora	Kumbla maram	*Euphorbiaceæ.*
Vitex altissima	Mayil-adi maram	*Verbenaceæ.*
Vitex negundo	Nochi maram	*Do.*
Wrightia tinctoria	Palai maram	*Apocynaceæ.*
Wrightia tomentosa	Veppalai maram	*Do.*
Zizyphus jujuba	Yelandai maram	*Rhamnaceæ.*
Zizyphus xylopyros	Mul-upai maram	*Do.*

B. Bamboos.

Bambusa arundinacea	Peruvarai moongil	*Gramineæ.*
Dendrocalamus strictus	Siruvarai moongil	*Do.*

C. Shrubs.

Acacia latronum	Kodi velam	*Leguminosæ.*
Acalypha fruticosa	Cinni	*Euphorbiaceæ.*
Adhatoda vasica	Adathodai	*Acanthaceæ.*
Aeschynomene aspera	Netti	*Leguminosæ.*
Allophylus cobbe	Siru-sale	*Sapindaceæ.*
Allophylus serratus	Kuva–koothi	*Do.*
Aloe vera	Kathali	*Liliaceæ.*
Atlantia monophylla	Kattuelimichi	*Rutaceæ.*
Breynia rhamonoides	Sigappu poola	*Euphorbiaceæ.*
Carissa spinarum	Sirukila	*Apocynaceæ.*
Calotropis gigantea	Yerukku	*Asclepiadaceæ.*
Canthium parviflora (*plectronia*)	Sengarai	*Rubiaceæ.*
Capparis sepiaria	Kattukathiri	*Capparidaceæ.*
Carissa carandas	Kila, Cherumkila	*Apocynaceæ.*
Cassia auriculata	Avaram, avarai	*Leguminosæ.*
Cassia occidentale	Pon-avarai	*Do.*
Cassia tora	Thagara, Oosithagara	*Do.*
Chomelia asiatica	Thirani	*Rubiaceæ.*
Cipadessa fruticosa	Savatu-chedi	*Meliaceæ.*
Clausena indica	Nana	*Rutaceæ.*
Croton lawianus	Kottai-manakku	*Euphorbiacea.*
Gymnosporia heyneana	Kattanji	*Celastraceæ.*

Botanical name.	Tamil name.	Natural order.
	C. Shrubs—*cont.*	
Gymnosporia montana	Kattanji	*Celastraceæ.*
Datura fastiosa	Vel-oomathu	*Solanaceæ.*
Datura stiamonium	Oomathu	*Do.*
Desmodium pulchellum	Narjuruvi	*Leguminosæ.*
Dodonæa viscosa	Vellari	*Sapindaceæ.*
Ehretia buxifolia	Kuravanji	*Boraginaceæ.*
Flacourtia ramontchi	Kothu vela	*Bixaceæ.*
Flacourtia sepiaria	....	*Do.*
Flemingia chappar	....	*Leguminosæ.*
Fluggea leucopyros	Kottu veppulam	*Euphorbiaceæ.*
Fluggea microcarpa	Vellaipoola	*Do.*
Grewia hirsuta	....	*Tiliaceæ.*
Grewia columnaris	....	*Do.*
Helicteres isora	Valamburi, Idamburi	*Sterculiaceæ.*
Hemicyclia sepiaria	Virai, Vellilambu	*Euphorbiaceæ.*
Hemidesmus indicus	Nannari	*Asclepiadaceæ.*
Hiptage madablota	Madu-malati, Kuruvath	*Malpighiaceæ.*
Indigofera paucifolia	Poola	*Leguminosæ.*
Jatropha curcas	Kattu amanakku	*Euphorbiaceæ.*
Lantana indica (*camara*)	Unni	*Verbenaceæ.*
Lawsonia inermis	Aivanam	*Lythraceæ.*
Mimosa rubicaulis	Kattu-seekai	*Leguminosæ.*
Nyctanthes arbortristis	Pavelum	*Oleaceæ.*
Ocimum gratissium	Thulasi	*Labiatæ.*
Ocimum sanctum	Karunthulasi	*Do.*
Opuntia dillenii	Mullukalli, Nagathali	*Cactaceæ.*
Pandanus tectorius	Thalai	*Pandanaceæ.*
Paramignya monophylla	Molongarni	*Rutaceæ.*
Pavetta indica	Pavattai	*Rubiaceæ.*
Pavonia zeylanica	....	*Malvaceæ.*
Phœnix acaulis	Eechampul	*Palmæ.*
Phœnix humilis	Siringi	*Do.*
Plumbago zeylanica	....	*Plumbaginaceæ.*
Randia dumetorum	Karai, marivalan, Marakalam.	*Rubiaceæ.*
Rhamnus wightii	....	*Rhamnaceæ.*
Rhus mysorensis	Chippa maram	*Anacardiaceæ.*
Rhus lineatus	....	*Do.*
Scutia indica	Kokki mullu	*Rhamnaceæ.*
Strobilanthes	Kurungi	*Acanthaceæ.*
Solanum gigantium	Sambal kiluvai	*Solanaceæ.*
Solanum trilobatum	Sundakkai	*Do.*
Solanum verbascifolium	Anaisundakkai	*Do.*
Solanum zanthocarpus	Kandamkathiri	*Do.*
Tephrosia perpurea (*Mendulsa suberosa*).	Kavali	*Leguminosæ.*
Toddalia asiatica	Molacarnai	*Rutaceæ.*
Toddalia aculiata	Kattu molaga, porivalan	*Do.*
Webera asiatica	Chintharni	*Rubiaceæ.*
Webera carymbosa	Tharni	*Do.*
Ximenia americana	Kale	*Oleaceæ.*
Zingiber casumunar	Kattumanjal	*Zingiberaceæ.*
Zizyphus nummularica	Nari-yelandai	*Rhamnaceæ.*
Zizyphus œnoplia	Soorai	*Do.*
Zizyphus glabrata	Kottaiyelandai	*Do.*
	D. Climbers.	
Acacia cæsia	Kari karan, Vellandu	*Leguminosæ.*
Acacia concinna	Seekayi	*Do.*
Acacia intsia	Indu-mullu	*Do.*
Ampelocissus latifolia	Kattukodimundari	*Ampelideæ.*
Abrus precatorius	Kundumani	*Leguminosæ.*
Abrus pulchellus	Vellai kundumani	*Do.*
Argyreia speciosa	Kakattan	*Convolvulaceæ.*
Aristolochia indica	....	*Aristolochiaceæ.*
Asparagus racemosus	Thannuta kodi	*Liliaceæ.*
Bauhinia vahlii	Kattumandarai	*Leguminosæ.*
Butea superba	....	*Do.*
Cæsalpinia bonducella	Gajjikai, Kalachikai	*Do.*
Cannalia virosa	....	*Do.*
Celastrus paniculata	....	*Celastraceæ.*

Botanical name.	Tamil name.	Natural order.
	D. Climbers—*cont.*	
Cissus quandrangularis	Perandai	*Ampelideæ.*
Cocculus villous	Kottukodi	*Menispermaceæ.*
Combretum ovalifolium	Vennangu kodi	*Combretaceæ.*
Cuscutta	....	*Convolvulaceæ.*
Derris scandens	Punali	*Leguminosæ.*
Dioscarea hispida	Kanalkodi	*Dioscareaceæ.*
Dioscarea pentaphylla	Kattuvelli	*Do.*
Gloriosa superba	Kannou	*Liliaceæ.*
Gymnema sylvestre	Siru-palai kodi	*Asclepiadaceæ.*
Hugonia mystax	Kodi veerai	*Lineæ.*
Ichnocarpus frutescens	Oothalkodi	*Apocynaceæ.*
Jasminum arborescens	Kattumalligai	*Oleaceæ.*
Lettsomia elliptica	Onan kodi	*Convulvulaceæ.*
Millettia auriculata	....	*Leguminosæ.*
Mucuna gigantea	Kakavali	*Do.*
Narvelia zeylanica	Naruvalan kodi	*Ranuneulaceæ.*
Pergularia extensa	Seendalkodi	*Asclepiadaceæ.*
Pterolobium indicum	Kari-indi Pulithadiki	*Leguminosæ.*
Secamone emetica	Seeraikodi	*Do.*
Smilax zeylanica	..	*Liliaceæ.*
Spatholobus roxburghii	Kattu avarai kodi	*Leguminosæ.*
Uvaria narum	Kattu valai	*Anonaceæ.*
Ventilago calyculata	Surai, Vembalam	*Rhamnaceæ.*
Ventilago madraspatana	Vembalam	*Do.*

(b) *Arranged alphabetically according to Tamil names.*

Tamil name.	Botanical name.	Natural order.
	A. Trees.	
Acha Maram	*Hardwickia binata*	*Leguminosæ.*
Alai Maram	*Ficus bengalensis*	*Moraceæ.*
Alingi Maram	*Alangium lamarckii*	*Cornaceæ.*
Arasa Maram	*Ficus religiosa*	*Moraceæ.*
Arunelli Maram	*Chukrasia tabularis*	*Meliaceæ.*
Athi Maram	*Ficus glomerata*	*Moraceæ.*
Bilva Maram	*Aegle marmelos*	*Rutaceæ.*
Borasu Maram	*Chloroxylon swietenia*	*Do.*
Chembulich Maram	*Erythroxylon monogynum*	*Lineæ.*
Chem Maram	*Pterocarpus santalinus*	*Ebanaceæ* ***Leguminosæ.***
Chinerumboli Maram	*Maba buxifolia*	*Ebanaceæ.*
Chini-koran Maram	*Streblus asper*	*Moraceæ.*
Chinnarigi Maram	*Lagerstrœmia lanceolata*	*Lythraceæ.*
Chin-thanaku Maram	*Sterculia urens*	*Sterculiaceæ.*
Chitha acha Maram	*Bauhinia racemosa*	*Leguminosæ.*
Chon athi Maram	*Ficus hispida*	*Moraceæ.*
Chowk Maram	*Casuaribna equisetifolia*	*ConefræConiferæ.*
Dhupam Maram	*Boswellia serrata*	*Burseraceæ.*
Eecha Maram	*Phœnix sylvestris*	*Palmæ.*
Eetti Maram	*Dalbergia latifolia*	*Leguminsoæ.*
Ellu-kanalu Maram	*Linociera intermedia*	*Oleaceæ.*
Elumuchi Maram	*Citrus medica*	*Rutaceæ.*
Elava Maram	*Bombax malabaricum*	*Malvaceæ.*
Etti Maram	*Strychnos nux-vomica*	*Loganiaceæ.*
Godachali Maram	*Holarrhena antidysenterica*	*Aponaceæ.*
Iluppai Maram	*Bassia latifolia*	*Sapotaceæ.*
Jaleri Maram	*Shorea talura*	*Dipterocarpaceæ.*
Kadal-murichi Maram	*Pistacia oleosa*	*Sapindaceæ.*
Kadalatti Maram	*Stereospermum xylocarpum*	*Bignoniaceæ.*
Kaddapay Maram	*Barringtonia acutangula*	*Myrtaceæ.*
Kadukai Maram	*Terminalia chebula*	*Combretaceæ.*
Kadu-thoomparai Maram	*Diospyros ovalifolia*	*Ebenaceæ.*
Kaka-nagai Maram	*Alseodaphne semicarpifolia*	***Leguminosæ.***

Tamil name.	Botanical name.	Natural order.
	A. Trees—*cont.*	
Kalkambi Maram	*Careya arborea*	*Myrtaceæ.*
Kal-thuringi Maram	*Albizzia odoratissima*	*Leguminosæ.*
Kallu-athi Maram	*Ficus tsiela*	*Moraceæ.*
Kalluichi Maram	*Ficus retusa*	Do.
Kamalapodi Maram	*Mallotus philipinensis*	*Euphorbiaceæ.*
Kambili-pisina Maram	*Gardenia gummifera*	*Rubiaceæ.*
Karu-vagai Maram	*Albizzia odoratissima*	*Leguminosæ.*
Karum-konnai Maram	*Cassia siamea*	Do.
Karumgali Maram	*Acacia sundra*	Do.
Karuveppalai Maram	*Murraya koenigii*	*Rutaceæ.*
Karu-marudu Maram	*Terminalia tomentosa*	*Combretaceæ.*
Karuvakkanai Maram	*Diospyros chloroxylon*	*Ebenaceæ.*
Karum-thumbi Maram	*Diospyros melanoxylon*	Do.
Karuvela Maram	*Acacia arabica*	*Leguminosæ.*
Karupalai Maram	*Holarrhena antidysenterica*	*Apocynaceæ.*
Karuvembu Maram	*Garuga pinnata*	*Burseraceæ.*
Karadipoongai Maram	*Sapindus laurifolius*	*Sapindaceæ.*
Kasan Maram	*Memecylon edule*	*Melastomaceæ.*
Kattu-kallari Maram	*Olea glandulifera*	*Oleaceæ.*
Kattukaruveppalai Maram	*Murraya exoti a*	*Rutaceæ.*
Kattumurungai Maram	*Muringa concanensis*	*Moringaceæ.*
Kattu-vagai Maram	*Albizzia lebbek*	*Leguminosæ.*
Keeri Maram	*Elaeodendron glaucum*	*Celastraceæ.*
Klarvalathu Maram	*Dolichandrone falcata*	*Bignoniaceæ.*
Kodukkapulli Maram	*Pithecolobium dulce*	*Leguminosæ.*
Kolakattai theku Maram	*Premna tomentosa*	*Verbenaceæ.*
Koli Maram	*Olea dioica*	*Oleaceæ.*
Konnai Maram	*Cassia fistula*	*Leguminosæ.*
Kora Maram	*Ixora parviflora*	*Rubiaceæ.*
Kosu-thamaku Maram	*Gyrocarpus americanus* (*jacquini*)	*Hernandiaceæ.*
Kothu-marikalan Maram	*Gardenia latifolia*	*Rubiaceæ.*
Kattai-thanaku Maram	*Sterculia villosa*	*Sterculiaceæ.*
Koyyappala Maram	*Psidium guayava*	*Myrtaceæ.*
Kothu-kala Maram	*Polyalthia cerasoides*	*Anonaceæ.*
Kumbla Maram	*Trewia nudiflora*	*Euphorbiaceæ.*
Kumalam Maram	*Gmelina arborea*	*Verbenaceæ.*
Kundalpanai Maram	*Caryota urens*	*Palmæ.*
Kungiliam Maram	*Boswellia serrata*	*Burseraceæ.*
Kuttipala Maram	*Streblus asper*	*Moraceæ.*
Maddi Maram	*Terminalia arjuna*	*Combretacea*
Do.	*Terminalia paniculata*	Do.
Magadam Maram	*Mimusops elengi*	*Sapotaceæ.*
Mal Maram	*Enterlobium saman*	*Leguminosæ.*
Malavembu Maram	*Melia dubia*	*Maliaceæ.*
Mamaram	*Mangifera indica*	*Anacardiaceæ.*
Manjanathinona Maram	*Morinda tinctoria*	*Rubiaceæ.*
Manjakadambai Maram	*Adina cordifolia*	Do.
Manjunda Maram	*Balanites roxiburghii*	*Simarubaceæ.*
Maramalli Maram	*Millingtonia hortensis*	*Bignoniaceæ.*
Mara-mathi Maram	*Bauhinia racemosa*	*Leguminosæ.*
Maravatti Maram	*Hydnocarpus wightiana*	*Bixaceæ.*
Mavilangai Maram	*Crataeva religiosa*	*Capparidacea*
Mayil-adi Maram	*Vitex altissima*	*Verbenaceæ.*
Mogalinga Maram	*Schrebera swietenioides*	*Oleaceæ.*
Muda mali Maram	*Buchanania lanceolata*	*Anacardiaceæ.*
Mul-upai Maram	*Zizyphus xylopyrus*	*Rhamnaceæ.*
Mul-kilvai Maram	*Balsamodendron berryi*	*Burseraceæ.*
Mullu-vengai Maram	*Bridelia retusa*	*Euphorbiaceæ.*
Do.	*Bridelia montana*	Do.
Mulmuruku Maram	*Erythrina indica*	*Leguminosæ.*
Mundiriparappu Maram	*Anacardium occidentale*	*Anacardiaceæ.*
Murukku Maram	*Erythrina suberosa*	*Leguminosæ.*
Muruku Maram	*Butea frondosa*	Do.
Murungai Maram	*Moringa pterygosperma*	*Moringaceæ.*
Muruvankai Maram	*Pterospermum suberifolium*	*Sterculiaceæ.*
Nagai Maram	*Eugenia jambolana*	*Myrtaceæ.*
Naiponnai Maram	*Ougenia dalbergioides*	*Leguminosæ.*
Naluvai, Nekkini Maram	*Canthium didymum*	*Rubiaceæ.*
Nalvala Maram	*Limonia crenulata*	*Rutaceæ.*
Nal-velangu Maram	*Albizzia procera*	*Leguminosæ.*
Namai Maram	*Anogeissus latifolia*	*Combretaceæ.*
Do.	*Anogeissus acuminata*	Do.

Tamil name.	Botanical name.	Natural order.
	A. Trees—*cont.*	
Narivala Maram	*Limonia acidissima*	*Rutaceæ.*
Navila Maram	*Plumeria acutifolia*	*Apocenaceæ.*
Nelli Maram	*Phyllanthus emblica*	*Euphorbiaceæ.*
Nervali Maram	*Cordia myxa*	*Boraginaceæ.*
Nerkadamba Maram	*Hymenodictyon excelsum*	*Rubiaceæ.*
Nermaddi Maram	*Terminalia arjuna*	*Combretaceæ.*
Nirkadambai Maram	*Mitragyna parviflora* (*Stephegyne*)	*Rubiaceæ.*
Nona Maram	*Morinda citrifolia*	*Do.*
Nochi Maram	*Vitex negundo*	*Verbenaceæ.*
Odina Maram	*Cochlospermum gossypium*	*Bixaceæ.*
Odian Maram	*Lannea grandis*	*Anacardiaceæ.*
Oodia Maram	*Odina wodier*	*Do.*
Pachali Maram	*Dalbergia paniculata*	*Leguminosæ.*
Pachai-kilvai Maram	*Protium caudatum*	*Burseraceæ.*
Padri Maram	*Stereospermum suaveolens*	*Bignoniaceæ.*
Palæ Maram	*Mimusops hexandra*	*Sapotaceæ.*
Pala-garuda Maram	*Alstonia scholaris*	*Apocynaceæ.*
Palai Maram	*Wrightia tinctoria*	*Do.*
Palkalli Maram	*Euphorbia trigona*	*Euphorbiaceæ.*
Panai Maram	*Borassus flabellifer*	*Palmæ.*
Paramba Maram	*Acacia ferruginea*	*Leguminosæ.*
Pee Maram	*Ailanthus excelsa*	*Simarubaceæ.*
Pee-nari Maram	*Do.*	*Do.*
Pela Maram	*Artocarpus integrifolia*	*Urticaceæ.*
Pe-kadukkai Maram	*Lagerstromia parviflora*	*Lythraceæ.*
Perum-karai Maram	*Randia brandisii*	*Rubiaceæ.*
Perum-kasan Maram	*Memecylon umbellatum*	*Melastomaceæ.*
Pillamarudu Maram	*Terminalia paniculata*	*Combretaceæ.*
Pon-avarai Maram	*Cassia Siamea*	*Leguminosæ.*
Poola Maram	*Eriodendron anfractuosum*	*Malvaceæ.*
Poovamkottai Maram	*Sapindus emarginatus*	*Sapindaceæ.*
Porasu Maram	*Butea frondosa*	*Leguminosæ.*
Porasu Maram	*Chloroxylon swietenia*	*Rutaceæ.*
Poompadiri Maram	*Stereospermum chelonoides*	*Bignoniaceæ.*
Pulabendi Maram	*Kydia cayleina*	*Malvaceæ.*
Pulchi Maram	*Schleichera trijuga*	*Sapindaceæ.*
Pulia Maram	*Tamarindus indica*	*Leguminosæ.*
Punga Maram	*Pongamia glabra*	*Do.*
Puvarasu Maram	*Thespesia polulnea*	*Matvasiæ.*
Rama-palam Maram	*Anona reticulata*	*Anonacæ.*
Sandana Maram	*Santalum album*	*Santalaceæ.*
Sara-parappu Maram	*Buchanania latifolia*	*Ancardiaceæ.*
Sarai Maram	*Acacia leucophloea*	*Leguminosæ.*
Seemaikothuvai Maram	*Pithecolobium saman*	*Do.*
Seetha-palam Maram	*Anona squamosa*	*Anonaceæ.*
Seram-kottai Maram	*Semecarpus anacardium*	*Ancardiaceæ.*
Sisoo Maram	*Dalbergia sissoides*	*Leguminosæ.*
Do.	*Dalbergia sissoo*	*Do.*
Sombupattai Maram	*Soymida febrifuga*	*Meliaceæ.*
Thadachi Maram	*Grewia tiliæfolia*	*Tilliaceæ.*
Thadasu Maram	*Do.*	*Do.*
Thammattan Maram	*Pittospermum floribundum*	*Pittosporaceæ.*
Thandri Maram	*Terminalia belerica*	*Combretaceæ.*
Thani Maram	*Do.*	*Do.*
Thavasi Maram	*Holoptelia integrifolia*	*Ulamaceæ.*
Theku Maram	*Tectona grandis*	*Verbenaceæ.*
Thethankottai Maram	*Strychnos potatorum*	*Loganiaceæ.*
Thiruvachipu Maram	*Thevetia neriifolia*	*Apocynaceæ.*
Thumbi Maram	*Diospyros melanoxylon*	*Ebenaceæ.*
Thungumunji Maram	*Enterlobium saman*	*Leguminosæ.*
Thuringi Maram	*Albizzia amara*	*Do.*
Udupai Maram	*Pterospermum heyneenum*	*Sterculiaceæ.*
Vagatta Maram	*Randia uliginosa*	*Rubiaceæ.*
Vakkanai Maram	*Diospyros montana*	*Ebenaceæ.*
Vatanarayana Maram	*Delonix elata*	*Leguminosæ.*
Vedadaram Maram	*Dichrostachys cinera*	*Do.*
Vedamkurunai Maram	*Stereospermum xylocarpum*	*Bignoniaceæ.*
Veduthalam Maram	*Dichrostachys cinerea*	*Leguminosæ.*
Veerai Maram	*Elaeodendron glaucum*	*Celastraceæ.*
Velangu Maram	*Dalbergia lanceolata*	*Leguminosæ.*
Velthadai Maram	*Givotia rottleriformis*	*Euphorbiaceæ.*

Tamil name.	Botanical name.	Natural order.
	A. Trees—*cont.*	
Velvelam Maram	*Acacia leucophloea*	*Leguminosæ.*
Vengai Maram	*Pterocarpus marsupium*	Do.
Ventheku Maram	*Lagerstroemia lanceolata*	*Lythraceæ.*
Vepa Maram	*Melia indica*	*Meliaceæ.*
Veppalai Maram	*Wrightia tinctoria*	*Apocynaceæ.*
Vila Maram	*Feronia elephantum*	*Rutaceæ.*
Woddan Maram	*Cleistanthus collinus*	*Euphorbiaceæ.*
Yelandai Maram	*Zizyphus jujuba*	*Rhamnaceæ.*
	B. Bamboos.	
Peruvarai Moongil	*Bambusa arundinacea*	*Gramineæ.*
Siruvarai Moongil	*Dendrocalamus strictus*	Do.
	C. Shrubs.	
Adathodai	*Adathoda vasica*	*Acanthaceæ.*
Aivanam	*Lawsonia inermis*	*Lythraceæ.*
Anaisundakkai	*Solanum verbascifolium*	*Solanaceæ.*
Avaram	*Cassia auriculata*	*Leguminosæ.*
Avarai	Do.	Do.
Cherumkila	*Carissa carandas*	*Apocynaceæ.*
Chintharni	*Webera asiatica*	*Rubiaceæ.*
Chippa Maram	*Rhus mysorensis*	*Anacardiaceæ.*
Cinni	*Acalypha fruticosa*	*Euphorbiaceæ.*
Eechampul	*Phœnix acaulis*	*Palmæ.*
Idamburi	*Helictress isora*	*Sterculiaceæ.*
Kale	*Ximenia americana*	*Oleaceæ.*
Kandamkathari	*Solanum zanthocarpus*	*Solanaceæ.*
Karai	*Randia dumetorum*	*Rubiaceæ.*
Karum-thulasi	*Ocimum sanctum*	*Labiatæ.*
Kathali	*Alœ vera*	*Liliaceæ.*
Kattanji	*Gymnosporia montana*	*Celastraceæ.*
Do.	*Gymnosporia heyneana*	Do.
Kattu elimichi	*Atlantia monophylla*	*Rutaceæ.*
Kattu manjal	*Zingiber casumunar*	*Zingiberaceæ.*
Kattu molaga	*Toddalia aculeata*	*Rutaceæ.*
Kattu seekai	*Mimosa rubicaulis*	*Ligwminosæ.*
Kattu kathiri	*Capparis sepiaria*	*Capparidaceæ.*
Kattu amanakku	*Jatropha curcas*	*Euphorbiaceæ.*
Kavali	*Tephrosia perpurea* (*Mundulea suber) osa*).	*Leguminosæ.*
Kila	*Carissa carandas*	*Apocynaceæ.*
Kodivelam	*Acacia latronum*	*Leguminosæ.*
Kokki mullu	*Scutia indica*	*Rhamnaceæ.*
Kothu vela	*Flacourtia ramontchi*	*Bixaceæ.*
Kottai-yelandai	*Zizyphus glabrata*	*Rhamnaceæ.*
Kottai-manakku	*Croton lawianus*	*Euphorbiaceæ.*
Kottu veppulam	*Fluggea leucopyrus*	Do.
Kurungi	*Strobilanthes*	*Acanthaceæ.*
Kuruvanji	*Ehretia buxifolia*	*Boraginaceæ.*
Kuva-koothi	*Allophylus serratus*	*Sapindaceæ.*
Mudu-malati	*Hiptage madablota*	*Malpighiaceæ.*
Marakalam	*Randia dumetorum*	*Rubiaceæ.*
Marivalan	Do.	Do.
Mola-carnai	*Toddalia asiatica*	*Eutaceæ.*
Molongarani	*Paramignya monophylla*	Do.
Mullukalli	*Opuntia dillenii*	*Cactaceæ.*
Nagathali	Do.	Do.
Nana	*Clausena indica*	*Rutaceæ.*
Nannari	*Hemidesmus indicus*	*Asclepiadaceæ.*
Narjuruvi	*Desmodium pulchellum*	*Leguminosæ.*
Nariyelandai	*Zizyphus nummularia*	*Rhamnaceæ.*
Netti	*Aeschynomene aspera*	*Leguminosæ.*
Oomathu	*Datura stiamonium*	*Solanaceæ.*
Oosithagara	*Cassia tora*	*Leguminosæ.*
Pavattai	*Pavetta indica*	*Rubiaceæ.*
Pavelum	*Nyctanthes arbortristis*	*Oleaceæ.*
Pon-avarai	*Cassia occidentale*	*Leguminosæ.*
Poola	*Indigofera paucifolia*	Do.
Porivalan	*Toddalia aculeata*	*Rutace*

Tamil name.	Botanical name.	Natural order.
	C. Shrubs—*cont.*	
Sambal kiluvai	*Solanum giganteum*	*Solanaceæ.*
Savatu-chedi	*Cipadessa fruticosa*	*Meliaceæ.*
Sengarai	*Canthium parviflorum*	*Rubiaceæ.*
Sigappu-pools	*Breynia rhamnoides*	*Euphorbiaceæ.*
Siru-sale	*Allophylus cobbe*	*Sapindaceæ.*
Siru-inji	*Phoenix humilis*	*Palmæ.*
Siru-kila	*Carrisa spinarum*	*Apocynaceæ.*
Soorai	*Zizyphus œnoplia*	*Rhamnaceæ.*
Sundakkai	*Solanum trilobatum*	*Solanaceæ.*
Thagara	*Cassia tora*	*Leguminosæ.*
Thalai	*Pandanus tectorius*	*Pandanaceæ.*
Tharni	*Webera corymbosa*	*Rubiaceæ.*
Thirani	*Chomelia asiatica*	Do.
Thulasi	*Ocimum gratissium*	*Labiatæ.*
Unni	*Lantana indica (camara)*	*Verbanaceæ.*
Valamburi	*Helecteres isora*	*Sterculiaceæ*
Vel-oomathu	*Datura fastiosa*	*Solanaceæ.*
Vellari	*Dodonæa viscosa*	*Sapindaceæ.*
Vellai poola	*Fluggea microcarpa*	*Euphorbiaceæ.*
Vellilambu	*Hemicyclia sepiaria*	Do.
Virai	Do.	Do.
Yerukku	*Calotropis gigantea*	*Asclepidaceæ.*
	D. Climbers.	
Gajjikai	*Cæsalpiniabonducella*	*Leguminosæ.*
Indu-mullu Seengaikodi	*Acacia intsia*	Do.
Kalachikai	*Caesalpinia bonducella*	Do.
Kakattan	*Argyreia speciosa*	*Convolvulaceæ.*
Kakkavali	*Mucuna gigantea*	*Leguminosæ.*
Kari karan	*Acacia caesia*	Do.
Kari indi	*Pterolobium indicum*	Do.
Kattu-avaraikodi	*Spatholobus roxburghii*	Do.
Katukodimundari	*Ampelocissus latifolia*	*Ampelideæ.*
Kattumandarai	*Bauhinia vahlii*	*Leguminosæ.*
Kattu malligai	*Jasminum arborescens*	*Cleaceæ.*
Kattu-valai	*Uvaris narum*	*Anonaceæ.*
Kattu velli	*Dioscorea pentaphylla*	*Dioscoreaceæ.*
Kavalkodi	*Dioscorea hispida*	Do.
Kodi veerai	*Hugonia mystax*	*Lineæ.*
Konnoou	*Gloriosa superba*	*Liliaceæ.*
Kottukodi	*Cocculus villous*	*Menispermaceæ.*
Kundumani	*Abrus precatorius*	*Leguminosæ.*
Naruvalankodi	*Narvelia zeylanica*	*Ranunculaceæ.*
Onankodi	*Lettsomia elliptica*	*Convolvulaceæ.*
Oothalkodi	*Ichnocarpus frutescens*	*Apocynaceæ.*
Perandai	*Cissus quadrangularis*	*Amplideæ.*
Punali	*Derris scandens*	*Leguminosæ.*
Puli-thadaki	*Pterolobium indicum*	Do.
Seekayi	*Acacia concinna*	Do.
Seendalkodi	*Pergularia extensa*	*Asclepidaceæ.*
Seeraikodi	*Secamone emetica*	Do.
Siru-palaikodi	*Gymnema sylvestre*	Do.
Sural	*Ventilago calyculata*	*Rhamnaceæ.*
Thannuta kodi	*Asparagus racemoses*	*Liliaceæ.*
Vennangu kodi	*Combretnm ovalifolium*	*Combretaceæ.*
Vellaikundu mani	*Abrus pulchellus*	*Leguminosæ.*
Vellandu	*Acacia cæsia*	Do.
Vembalam	*Ventilago calyculata*	*Rhamnaceæ.*
Vembalam	*Ventilago madraspatana*	Do.

APPENDIX IV.

Statement of Grazing Incidence, 1926–27 *to* 1935–36.

Years.	Alangayam Range.		Tiruppattur Range.		Chengam Range.		Krishnagiri Range.		Division.	
	Grazing area.	Cattle grazed cow-units.*	Grazing area.	Cattle grazed cow-units.*	Grazing area.	Cattle grazed cow-units.*	Grazing area.	Cattle grazed cow-units.*	Grazing area.	Cattle grazed cow-units.*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	ACS.		ACS.		ACS.		ACS.		ACS.	
1926–27	36,171	11,368	54,659	10,489	24,639	4,398	32,054	9,860	1,47,523	36,115
1927–28	36,371	13,705	54,664	11,770	43,852	9,525	32,911	8,991	1,67,798	43,991
1928–29	35,954	14,448	54,518	13,436	43,781	11,071	28,993	8,679	1,63,246	47,634
1929–30	45,474	16,915	54,342	11,064	43,714	10,583	28,580	7,553	1,72,110	46,115
1930–31	45,016	15,967	54,342	10,714	43,641	10,482	28,173	6,580	1,71,172	43,743
1931–32	45,271	10,912	54,366	8,905	43,382	11,619	27,565	6,696	1,70,584	38,132
1932–33	45,325	14,116	55,173	11,129	78,222	24,247	26,722	6,984	2,05,442	56,476
1933–34	45,595	12,195	55,196	9,806	83,412	25,211	26,768	6,454	2,10,971	53,666
1934–35	45,575	11,650	55,223	10,256	83,410	21,697	26,553	6,468	2,10,761	50,071
1935–36	45,245	9,902	54,991	9,621	83,532	23,565	26,113	5,990	2,09,881	49,078
Total ..	**4,25,997**	**1,31,178**	**5,47,474**	**1,07,190**	**5,71,585**	**1,52,398**	**2,84,432**	**74,255**	18,29,488	4,65,021
Annual average ..	**42,600**	**13,118**	**54,747**	**10,719**	**57,159**	**15,240**	**28,443**	**7,426**	1,82,949	**46,502**
Incidence (acres per cow-unit.)	**3·2**		**5·1**		**3·7**		**3·8**		**3·7**	

* All cattle grazed have been reduced to 'cow-units,' taking 1 buffalo = 2 cows and one sheep = ½ cow.

APPENDIX V.

Statement showing names of villages under the Forest Village System, the number of cattle in each village and the area and location of its grazing block.

Serial number and name of village.	Cow-units (1937 census).	Amount of grazing deposit.*	Location of grazing block.	Area in acres.	Total.
(1)	(2)	(3)	(4)	(5)	(6)
		RS. A. P.			
Alangayam Range.					
1 Kottayur	211	39 9 0	Mangalam reserve	1,002	1,326
			Jolarpet reserve	280	
			Unreserves	44	
Tiruppattur Range.					
1 Kodagumalai	202½	37 15 6	Andiappanur reserve	942	942
2 Kambugudi	112	21 0 0	Andiappanur reserve	85	810
			Inner Javadis reserve	401	
			Unreserves	324	
3 Nadur	255	95 10 0	Andiappanur reserve	800	2,800
			Pungulam reserve	650	
4 Rangasamudram ..	278½	52 3 6	Unreserves	1,350	
5 Palayapalayam	329	61 11 0	Inner Javadis reserve	849	1,800
			Unreserves	951	
Chengam Range.					
1 Gunreddi	265½	49 12 6	Pelamarathur reserve	674	760
			Unreserves	86	
2 Vavakallur	99½	18 10 6	Pelamarathur reserves	520	630
			Unreserves	110	
3 Timirimarathur	90	16 14 0	Pelamarathur reserve	400	510
			Unreserves	110	
4 Pelamarathur	419½	78 10 6	Pelamarathur reserve	937	1,365
			Unreserves	428	
5 Kannalamanthai ..	606	113 10 0	Pelamarathur reserve	520	1,360
			Nallapattu reserve	384	
			Unreserves	456	
6 Velichanur	352	66 0 0	Pelamarathur reserves	820	980
			Unreserves	160	
7 Vannankuttai	219½	41 2 6	Pelamarathur reserve	458	870
			Thenmalai reserve	326	
			Unreserves	86	
8 Kilsilambadi	16	3 0 0	Pelamarathur reserve	103	245
			Unreserves	142	

* Calculated at 3 annas per cow-unit for all villages except Nadur in the Tiruppattur Range for which the grazing deposit is assessed at 6 annas per cow-unit.

Serial number and name of village. (1)	Cow units (1937 census). (2)	Amount of grazing deposit.* (3) RS.	A.	P.	Location of grazing block. (4)	Area in acres. (5)	Total. (6)
		Chengam Range—cont.					
9 Melsilambadi	405	75	15	0	Pelamarathur reserve	643	1,240
					Thenmalai reserve	244	
					Unreserves	353	
10 Tettur and Thoppur	144	27	0	0	Nallapattu reserve	124	430
					Unreserves	306	
11 Ondikuriyanur	41	7	11	0	Nallapattu reserve	96	96
12 Kuriyanur	187½	35	2	6	Nallapattu reserve	96	270
					Unreserves	174	
13 Nallapattu	220½	41	5	6	Nallapattu reserve	374	695
					Unreserves	321	
14 Chinnavavukuttai	94	17	10	0	Nallapattu reserve	306	500
					Unreserve	194	
15 Kuttathur	32	6	0	0	Nallapattu reserve	268	580
					Unreserves	312	
16 Kuthaneri	179	33	9	0	Nallapattu reserve	169	455
					Unreserves	286	
17 Valakad	161	30	3	0	Nallapattu reserve	596	~~710~~ 1230 (ms.)
					Unreserves	114	
~~18 Pulichakuttai~~	~~20~~	~~3~~	~~12~~	~~0~~	~~Nallapattu reserve~~	~~803~~	~~803~~
19 Natchamalai	51	9	9	0	Do.	~~230~~ 513 (ms.)	~~230~~ 513 (ms.)
20 Padari	53½	10	0	6	Do.	196	196
21 Molayanur	146½	27	7	6	Do.	314	650
					Unreserves	336	
22 Kilvilamuchi	143	26	13	0	Nallapattu reserve	120	657
					Unreserves	537	
23 Melvilamuchi	61	11	7	0	Nallapattu reserve	148	246
					Unreserves	98	
24 Melthatiapet	149	27	15	0	Nallapattu reserve	642	1,400
					Thenmalai reserve	531	
					Unreserves	227	
25 Padapanjamarathur	340½ †	63	13	6	Thenmalai reserve	603	777
					Unreserves	174	
26 Pelakanur	513	96	3	0	Thenmalai reserve	398	615
					Unreserves	217	
27 Mottur	78	14	10	0	Thenmalai reserve	394	535
					Unreserves	141	
28 Velamarathur	4 ‡	0	12	0	Nallapattu reserve	56	948
					Thenmalai reserve	414	
					Unreserves	478	
29 Palayathalur	162½	30	7	6	Thenmalai reserve	1,146	1,313
					Unreserves	167	
30 Puliyur	300½	56	5	6	Thenmalai reserve	950	1,607
					Unreserves	657	
31 Kilthattiapet	111½	20	14	6	Thenmalai reserve	664	743
					Unreserves	79	
32 Erukampattu	220	41	4	0	Thenmalai reserve	1,258	1,795
					Unreserves	537	
33 Nellivoy	378½	70	15	6	Thenmalai reserve	1,768	2,163
					Unreserves	395	
34 Perumattam	285½	53	8	6	Thenmalai reserve	1,509	1,827
					Enclosure	318	
35 Melpattu	386	72	6	0	Thenmalai reserve	2,012	2,302
					Enclosure	290	
36 Chinnakilpet	158	29	10	0	Thenmalai reserve	1,840	1,992
					Enclosure	152	
37 Kilpattu or Periakilpet.	533½	100	0	6	Thenmalai reserve	2,314	2,713
					Enclosure	399	
38 Athipattu	231	43	5	0	Thenmalai reserve	1,643	1,785
					Enclosure	142	

* Calculated at 3 annas per cow-unit for all villages except Nadur in the Tiruppattur range for which the grazing deposits assessed at 6 annas per cow unit.

† Includes about 176 cow-units, of Melur hamlet, which are grazed in the Velamarathur Block (Serial No. 28).

‡ In addition to this number, 176 cow-units of Melur, hamlet of Padapanjamarathur village (Serial No. 25) are grazed in this block.

APPENDIX VI.

VILLAGE SANDAL.

(*a*) Alangayam.

(*List of Survey Fields in which Sandalwood trees are the property of Government, with the area, situation and classification of each field.*)

NOTE.—The details shown in this Appendix have been furnished by the District Forest Officer, in the case of Tiruppattur range, and by the respective Tahsildars for Alangayam and Chengam.

Survey number.	Area in acres.	Village in which situated.	Classification.	
(1)	(2)	(3)	(4)	
54-1	0·10	Kottur	Pattas assigned after April 1918.	
256-2	4·65	Do.		
55	2·77	Do.		
58	2·43	Do.		
60	2·85	Do.	Assessed waste.	
72	3·53	Do.		
86	52·35	Do.		
52	5·80	Do.	Footpath and rock.	
53-2	0·53	Do.	Road.	
54-2	1·09	Do.	Footpath and stream.	
56	0·95	Do.	Footpath.	
66	5·66	Do.	Village-site.	
67	1·25	Do.	Footpath.	Poramboke.
69-1 B	2·83	Do.	Forest bungalow.	
70	3·38	Do.	Footpath.	
73-2	1·55	Do.	Do.	
77	1·73	Do.	Kaliamman temple.	
78-2	1·23	Do.	Footpath.	
82	0·30	Do.	Do.	
89	0·41	Do.	Do.	
295-2	6·03	Mangalam		
347	1·71	Do.	Pattas assigned after April 1918.	
352-1	8·68	Do.		
351	2·89	Do.	Assessed waste.	
263	23·97	Do.	Channel.	
271	2·28	Do.	Tank.	
272	0·59	Do.	Stream.	
276	4·10	Do.	Do.	
277-2	0·34	Do.	Forest road.	Poramboke.
278-2	0·35	Do.	Do.	
279-2	0·12	Do.	Do.	
280-2	0·15	Do.	Do.	
281	2·95	Do.	Channel and village-site.	
282	8·74	Do.	Channel and path.	
283	0·85	Do.	Forest path.	
288	2·30	Do.	Do.	
290	5·97	Do.	Do.	
293-2	3·85	Do.	Channel.	Poramboke.
293-3	4·30	Do.	Footpath.	
295	3·05	Do.	Channel and path.	
311	10·63	Thayalur	Pattas assigned after April 1918.	
332	8·14	Do.		
298	2·54	Do.	Village-site.	
300	0·64	Do.	Path.	
301	2·30	Do.	Temple and path.	
303	1·18	Do.	Temple.	
308	3·16	Do.	Path.	
312	2·24	Do.	Do.	
316	2·71	Do.	Stream and path.	
319	2·54	Do.	Path.	
322	2·21	Do.	Do.	Poramboke.
323	5·85	Do.	Stream.	
325	4·86	Do.	Path.	
326	6·37	Do.	Stream and path.	
327-2	11·08	Do.	Stream.	
328	3·20	Do.	Do.	
329	3·37	Do.	Path.	
336	1·42	Do.	Stream and path.	
350-1	5·40	Athnavoor	Pattas assigned after April 1918.	
2	5·74	Do.		
24	1·59	Do.		
25	1·85	Do.		
32	2·14	Do.	Assessed waste.	
352-1	1·00	Do.		
353	17·03	Do.		
5	4·92	Do.	Malayamman temple.	
6	3·98	Do.	Footpath.	
11	5·43	Do.	Do.	
12	1·08	Do.	Stream.	Poramboke.
21	1·11	Do.	Burrial-ground.	
22	2·65	Do.	Village-site.	
134-2	0·30	Nelavoor		
138	0·73	Do.		
139	13·30	Do.		
155	14·15	Do.		
172	2·16	Do.		
182	10·64	Do.	Assessed waste.	
205-2	1·05	Do.		
207	4·74	Do.		
141	1·50	Do.		
195	2·50	Do.		
197	2·05	Do.	Unassessed waste.	
203-2	1·05	Do.		
152	16·20	Do.		
176	11·62	Do.		
178	3·36	Do.		
180	3·92	Do.	Grazing porambokes.	
206-2	2·74	Do.		
209	16·07	Do.		
122	4·20	Nelavoor	Footpath.	
123	1·25	Do.	Do.	
128	2·10	Do.	Do.	
132	4·15	Do.	Do.	
135-1	2·57	Do.	Do.	
137	2·00	Do.	Do.	
143	0·06	Do.	Forest road.	
146	6·85	Do.	Footpath and tank.	
156-2	0·42	Do.	Well.	
159	11·69	Do.	Lake.	
161	3·92	Do.	Path.	
163-1	8·77	Do.	Village-site.	Poramboke.
164-1	0·10	Do.	Tope.	
170-1	10·62	Do.	Burial-ground.	
174-2	0·03	Do.	Forest road.	
175	2·18	Do.	Path.	
177-2	0·41	Do.	Forest road.	
185	2·44	Do.	Path.	
186	0·47	Do.	Footpath.	
189	4·50	Do.	Do.	
192	4·13	Do.	Do.	
198	5·84	Do.	Do.	
202	5·42	Do.	Do.	
204	2·56	Do.	Road.	
225-1	15·00	Mottukaniyur		
233-2	3·06	Do.		
235	15·00	Do.	Assessed waste.	
225-2	2·08	Do.		
260	5·20	Do.		
253	0·86	Do.	Unassessed waste.	
212-2	0·09	Do.	Forest road.	
213-2	0·28	Do.	Do.	
214-2	0·40	Do.	Do.	
217	5·00	Do.	Village-site.	
218-1	0·33	Do.	Path.	
3	0·28	Do.	Do.	
220	4·20	Do.	Burrial-ground.	Poramboke.
226-2	0·05	Do.	Path.	
226-1 A	0·14	Do.	Forest road.	
229	1·06	Do.	Stream.	
230	0·25	Do.	Forest road.	
233-1	2·09	Do.	Channel and stream.	
236	2·04	Do.	Channel.	
314-2	3·57	Puthur	Assessed waste.	
341-2	0·70	Padavanur	Do.	
337	1·64	Do.	Village-site.	Poramboke.
341-3	1·21	Do.	Do.	
349	3·77	Muthanur	Assessed waste.	
30	4·15	Punganur	Footpath.	
34	5·87	Do.	Tank and tank bund.	
36	2·10	Do.	Burrial-ground.	
38	4·03	Do.	Footpath.	Poramboke.
40	2·64	Do.	Do.	
41	1·61	Do.	Village-site.	
44	0·58	Do.	Footpath.	
47	3·23	Do.	Do.	
49	1·57	Do.	Do.	
95	0·38	Kottayur	Ammanar temple.	
98	1·08	Do.	Stream.	
101	6·69	Do.	Cattle-stand.	
105	0·56	Do.	Footpath.	
106	2·32	Do.	Village-site.	Poramboke.
108	0·53	Do.	Footpath.	
112	0·36	Do.	Do.	
114-2	0·04	Do.	Well.	
237	0·31	Pallakaniyur	Forest road.	
238-2	0·11	Do.	Do.	
238-3	0·18	Do.	Do.	
239	1·07	Do.	Village-site.	
240	4·00	Do.	Footpath.	
241-2	0·02	Do.	Forest road.	Poramboke.
241-3	0·09	Do.	Do.	
242	12·05	Do.	Stream.	
245	0·25	Do.	Path.	
246	4·11	Do.	Stream.	
252-2	0·52	Do.	Forest Road.	
255-1	0·24	Do.	Do.	
3-2 A	4·20	Bhimakulam		
4	5·72	Do.		
19	0·90	Do.		
39-2	2·74	Do.		
44	10·03	Do.		
57	1·80	Do.	Assessed waste.	
142-2 B	5·09	Do.		
223-2 A	3·22	Do.		
226-2	5·28	Do.		
247	19·19	Do.		
248	21·56	Do.		

Note.—The above statement is correct up to 28th February 1937.

(b) Tiruppattur.

Survey number. (1)	Area in acres. (2)	Village in which situated. (3)	Classification. (4)	
13	39·75	Chinnavatanur	Ownership of sandal wood trees purchased by Government subsequent to assignment on patta.	
25	34·47	Do.		
8 part.	38·60	Do.	Pattas assigned after June 1907.	
11-2	15·25	Do.		
12	9·80	Do.		
14 part.	4·38	Do.		
22-1	6·47	Do.		
27	7·43	Do.		
31	1·29	Do.		
351	25·00	Do.		
352	12·50	Do.		
353	2·25	Do.		
354	38·25	Do.		
355	15·25	Do.		
356-1	20·00	Do.		
2	8·63	Do.	Stream.	Poramboke.
5	5·90	Do.	Do.	
7	3·18	Do.	Footpath.	
8-2 C	5·88	Do.	Stream.	
9	2·22	Do.	Stream and jungle.	
11-1	31·00	Do.	Forest.	
14-1 A	7·85	Do.	Stream.	
15	2·42	Do.	Do.	
20	2·80	Do.	Footpath.	
21	4·52	Do.	Village-site.	
22-2	0·23	Do.	Do.	
23	4·14	Do.	Footpath.	
24	5·00	Do.	Do.	
28 part.	14·73	Do.	Forest.	
356 part.	22·59	Do.	Do.	
379	Included in S. No. 8.	Do.	Newly formed by subdividing part of S. No. 8.	
380	Do.	Do.		
381	Do.	Do.		
382	Do.	Do.		
383	Included in S. No. 11.	Do.	Newly formed by subdividing part of S. No. 11.	
384	Do.	Do.		
385	Do.	Do.		
386	Do.	Do.		
387	Do.	Do.		
388	Included in S. No. 28.	Do.	Newly formed by subdividing part of S. No. 28.	
42	10·20	Kandalanur	Ownership of sandal trees purchased by Government subsequent to assignment on patta.	
43	22·17	Do.		
45	36·40	Do.		
38	4·50	Do.	Pattas assigned after June 1907.	
39	1·80	Do.		
40	9·77	Do.		
44	8·70	Do.		
46	42·42	Do.		
47	13·55	Do.		
48	7·17	Do.		
357-2	7·26	Do.		
358	10·42	Do.		
359	3·99	Do.		
360	4·25	Do.		
361	12·80	Do.		
362	11·32	Do.		
363	5·46	Do.		
364	6·90	Do.		
365	3·52	Do.		
366	4·75	Do.		
348	29·50	Do.		
349	16·29	Do.		
350	14·02	Do.		
389	Included in S. No. 46.	Do.	Newly formed by subdividing part of S. No. 46.	
390	Do.	Do.		
391	Do.	Do.		
37	1·96	Do.	Village-site.	Poramboke.
357-1	22·04	Do.	Forest.	
360-2	4·95	Do.	Forest poramboke.	
66	33·25	Perumpalli	Ownership of sandal trees purchased by Government subsequent to assignment on patta.	
68	23·78	Do.		
55 part.	10·47	Do.	Pattas assigned after June 1907.	
56	13·65	Do.		
58-2	3·10	Do.		
59	32·67	Do.		
60	9·90	Do.		
340-2	6·52	Do.		
341	0·68	Do.		
342	6·94	Do.		
343	20·04	Do.		
344	8·75	Do.		
345-2	11·62	Do.		
346	24·38	Do.		
347	44·25	Do.		
51	3·10	Do.	Temple.	Poramboke.
52	7·20	Do.	Road.	
54	1·28	Do.	Do.	
55-1	1·88	Do.	Burial-ground.	
62	5·95	Do.	Village-site.	
64	1·68	Do.	Road.	
65	2·20	Do.	Do.	
67	10·00	Do.	Do.	
69	2·75	Do.	Do.	
340-1	0·81	Do.	Do.	
345-1	0·75	Do.	Stream.	
392	Included in S. No. 59.	Do.	Formed by subdividing part of survey No. 59.	
72	27·05	S erkanur	Ownership of sandalwood trees purchased by Government subsequent to assignment.	
80	48·68	Γo.		
86	13·50	Do.		
74-2	0·43	Sherkanur	Pattas assigned after June 1907.	
76-2	2·11	Do.		
77	2·85	Do.		
78-1	18·69	Do.		
88	9·10	Do.		
329-1	1·35	Do.		
330	9·80	Do.		
332	14·52	Do.		
333	10·25	Do.		
334-2	4·94	Do.		
335	14·57	Do.		
336	8·56	Do.		
337	13·29	Do.		
338	8·13	Do.		
339	16·01	Do.		
74-1	9·59	Do.	Tank.	Poramboke.
78-2	0·43	Do.	Forest inspection shed.	
75	4·23	Do.	Pond.	
76-4	0·73	Do.	Stoney ground.	
82	5·36	Do.	Tank.	
80-2	3·57	Do.	Cattle-track.	
83	8·32	Do.	Do.	
85	2·26	Do.	Village-site.	
329-2	0·70	Do.	Cattle track.	
331	7·60	Do.	Jungle.	
334-1/3 part	6·33	Do.	Forest.	
	4·76	Do.	Do.	
101-1	8·75	Kodakumalai	Ownership of sandal trees purchased by Government subsequent to assignment on patta.	
89	3·25	Do.	Pattas assigned after June 1907.	
91	3·30	Do.		
104	1·30	Do.		
311	3·62	Do.		
312	2·31	Do.		
90	0·25	Do.	Footpath.	Poramboke.
92	1·03	Do.	Pond.	
94	3·45	Do.	Village-site.	
95	2·88	Do.	Forest.	
100	0·76	Do.	Footpath.	
109-1	5·70	Thagarakuppam.	Ownership of sandal trees purchased by Government subsequent to assignment on patta.	
115	20·62	Do.		
116	34·79	Do.		
122	8·32	Do.		
124	14·6	Do.		
128	22·25	Do.		
118-2 B	7·30	Do.	Pattas assigned after June 1907.	
121	3·07	Do.		
125-1	2·55	Do.		
133 part.	18·10	Do.		
306 part.	17·70	Do.		
308	9·05	Do.		
310	8·00	Do.		
111 part.	1·53	Do.	Assessed waste.	
307	0·79	Do.		
446	..	Do.	Unassessed waste. Newly formed survey numbers.	
447	..	Do.		
448	*	Do.		
449	36·6	Do.		
450	..	Do.		
451	..	Do.		
393	Included in S. No. 111.	Do.	Newly formed by subdividing part of S. No. 111.	
394	Included in S. No. 133.	Do.	Newly formed survey numbers by subdividing part of S. No. 133	
395	Do.	Do.		
396	Do.	Do.		
397	Do.	Do.		
398	Do.	Do.		
399	Do.	Do.		
400	Do.	Do.		
401	Do.	Do.		
402	Do.	Do.		
403	Do.	Do.		
109-2	2·91	Do.	Stoney ground.	Poramboke.
111 part.	14·92	Do.	Forest.	
114	4·02	Do.	Village-site.	
117	1·43	Do.	Forest.	
120	3·80	Do.	Cattle-track.	
123	0·55	Do.	Do.	
125-½	3·00	Do.	Stoney ground.	
126	3·65	Do.	Temple.	
129	1·93	Do.	Do.	
133 part.	61·90	Do.	Forest.	
306	12·62	Do.	Do.	
309	16·88	Do.	Do.	
153	15·88	Belur	Ownership of sandalwood trees purchased by Government subsequent to assignment on patta.	
155-1	13·21	Do.		
157	11·40	Do.		
137 part.	5·05	Do.	Pattas assigned after June 1907.	
138	4·42	Do.		
147	5·80	Do.		
155-2	2·15	Do.		
160-2	4·56	Do.		
313 part.	17·45	Do.		
314	5·55	Do.		
315	12·16	Do.		
317	9·12	Do.		
318	11·15	Do.		
319	15·62	Do.		
322	8·14	Do.		
326	0·25	Do.		
326	10·85	Do.		
327	8·27	Do.		
154	27·05	Do.	Assessed waste.	
313 part.	45·17	Do.		
320	11·34	Do.		
323	4·64	Do.		
159-1	11·54	Do.		

* Area computed in the working plan office.

(b) Tiruppattur—*cont.*

Survey number.	Area in acres.	Village in which situated.	Classification.	
(1)	(2)	(3)	(4)	
136 ..	18·16	Belur	Forest.	
137 part.	10·20	Do.	Do.	
140 ..	2·73	Do.	Stoney ground.	
142 ..	0·84	Do.	Road.	
143-2 ..	0·54	Do.	Temple.	
145 ..	1·49	Do.	Footpath.	Poramboke.
146 ..	0·49	Do.	Pond.	
148 ..	0·43	Do.	Do.	
149 ..	2·03	Do.	Village-site.	
152 ..	0·20	Do.	Catte-track.	
156 ..	1·46	Do.	Stoney ground.	
158 ..	11·30	Do.	Hill.	
159-2 ..	1·26	Do.	Stream.	
160-1 ..	18·56	Do.	Forest.	
316 ..	4·15	Do.	Footpath.	Poramboke.
321 ..	1·42	Do.	Do.	
325 ..	12·40	Do.	Forest.	
328 ..	34·20	Do.	Do.	
162 ..	16·15	Kilanur		
163 ..	3·62	Do.		
167 ..	7·91	Do.	Ownership of sandalwood trees purchased by Government subsequent to assignment on patta.	
168 ..	15·30	Do.		
169 ..	15·63	Do.		
183 ..	9·73	Do.		
166 ..	3·48	Do.		
170 part.	2·82	Do.		
171 ..	8·19	Do.		
175 part.	8·44	Do.		
177 part.	1·52	Do.		
180 ..	4·35	Do. ..		
185 part.	32·11	Do.		
367 part.	17·13	Do.		
368 ..	2·32	Do.	Pattas assigned after June 1907.	
369 ..	1·38	Do		
370 ..	5·00	Do.		
372 ..	5 56	Do.		
373 ..	4·38	Do.		
374 ..	2·69	Do.		
375 ..	1·39	Do.		
376 ..	10·39	Do.		
377 ..	2·52	Do.		
178 ..	16·60	Do.	Assessed waste.	
367 part.	5·88	Do.		
164 ..	0·62	Do.	Road.	
170 part.	24·03	Do.	Forest.	
175 part.	6·14	Do.	Do.	
177 part.	1·86	Do.	Temple.	Poramboke.
179 ..	4·88	Do.	Village-site.	
185 part.	4·89	Do.	Road.	
371 ..	6·07	Do.	Forest.	
190 ..	7·19	Kottanur ..	Ownership of sandal trees purchased by Government subsequent to assignment on patta.	
194 ..	6·05	Do.	Pattas assigned after June 1907.	
378 ..	2·92	Do.		
191 ..	0·73	Do.	Stream.	
192 ..	0·37	Do.	Do.	Poramboke.
193 ..	1·04	Do.	Village-site.	
205 ..	16·45	Palayapalayam ..		
268 ..	1·70	Do. ..		
270 ..	10·45	Do. ..		
271-1 ..	2·00	Do. ..	Pattas assigned after June 1907.	
272 ..	1·93	Do. ..		
273 ..	1·50	Do. ..		
433 ..	..	Do. ..		
434 ..	..	Do. ..		
435 ..	..	Do. ..	Unassessed waste. Newly formed survey numbers.	
436 ..	..	Do. ..		
437 ..	..	Do. ..		
438 ..	..	Do. ..		
439 ..	..	Do. ..		
440 ..	*	Do. ..		
441 ..	..	Do. ..		
442 ..	63·26	Do. ..	Unassessed waste. Newly formed survey numbers.	
443 ..	..	Do. ..		
444 ..	..	Do. ..		
445 ..	..	Do. ..		
197 ..	3·50	Do. ..	Stream.	
199 ..	1·65	Do. ..	Cattle stand.	
200 ..	2·42	Do. ..	Village-site.	
201 ..	0·92	Do. ..	Stream.	
206 ..	25·15	Do. ..	Forest.	Poramboke.
207 ..	8·44	Do. ..	Do.	
269 ..	0·93	Do. ..	Do.	
270-2 ..	1·05	Do. ..	Do.	
271-2 ..	1·75	Do. ..	Do.	
210 ..	49·60	Rangasamudram.		
212 ..	6·58	Do.	Ownership of sandal trees purchased by Government subsequent to assignment on patta.	
213 ..	12·80	Do.		
211 ..	13·47	Do.		
215-1 ..	0·45	Do.		
259 ..	27·97	Do.		
260 ..	19·25	Do.		
261 ..	9·75	Do.		
262 ..	2·80	Do.	Pattas assigned after June 1907.	
263 ..	4·93	Do.		
264 ..	3·02	Do.		
265 ..	5·73	Do.		
266 ..	6·42	Do.		
417 ..	..	Do.		
418 ..	..	Do.		
419 ..	..	Do.	Unassessed waste. Newly formed survey numbers.	
420 ..	..	Do.		
421 ..	..	Do.		
422 ..	..	Do.		
423 ..	..	Do.		
424 ..	..	Do.		
425 ..	..	Do.		
426 ..	..	Do.		
427 ..	*	Do.	Unassessed waste. Newly formed survey numbers.	
428 ..	74·05	Do.		
429 ..	..	Do.		
430 ..	..	Do.		
431 ..	..	Do.		
432 ..	..	Do.		
209 ..	0·80	Rangasamudram.	Cattle-track.	
215-2 ..	2·62	Do.	Do.	
217 ..	0·44	Do.	Burial-ground.	Poramboke.
220 ..	3·10	Do.	Village-site.	
267 ..	0·60	Do.	Stream.	
241-1 ..	11·06	Kambukudi ..	Ownership of sandalwood trees purchased by Government subsequent to assignment on patta.	
236 ..	8·70	Kambukudi ..		
239-3 ..	5·16	Do. ..		
241-2 ..	4·35	Do. ..	Pattas assigned after June 1907.	
245 ..	4·94	Do. ..		
235 ..	16·90	Do. ..		
239-1 ..	13·90	Do. ..	Patta assigned after June 1907.	
240 ..	9·14	Do. ..	Assessed waste.	
238 ..	2·05	Do. ..	Village-site.	
239-2 ..	0·17	Do. ..	Well.	
242 ..	15·30	Do. ..	Forest.	Poramboke.
243 ..	0·95	Do. ..	Cattle-track.	
244 ..	1·35	Do. ..	Do.	
226 ..	5·34	Nadur	Ownership of sandalwood trees purchased by Government subsequent to assignment on patta.	
223 ..	7·00	Do.		
225 ..	3·79	Do.		
234 ..	10·58	Do.		
248 ..	1·00	Do.		
249 ..	22·37	Do.		
250-1 ..	0·52	Do.		
251 ..	12·50	Do.	Pattas assigned after June 1907.	
252 ..	5·81	Do.		
253 ..	12·25	Do.		
254 ..	7·12	Do.		
255 ..	10·75	Do.		
257 ..	6·44	Do.		
246 ..	4·03	Do.		
404 ..		Do.		
405 ..		Do.		
406 ..		Do.		
407 ..		Do.		
408 ..		Do.		
409 ..		Do.		
410 ..	*57·7	Do.	Unassessed waste. Newly formed survey numbers.	
411 ..		Do.		
412 ..		Do.		
413 ..		Do.		
414 ..		Do.		
415 ..		Do.		
416 ..		Do.		
227 ..	1·98	Do.	Stream.	
231 ..	1·68	Do.	Village-site.	
232 ..	6·62	Do.	Stream.	
247 ..	0·81	Do.	Do.	Poramboke.
250-2 ..	5·75	Do.	Cattle-track.	
256 ..	1·12	Do.	Stream.	
258 ..	1·31	Do.	Do.	
275 part.	3·56	Vasantapuram ..		
278 ..	3·86	Do. ..		
280 ..	2·82	Do. ..		
282 ..	2·27	Do. ..		
284-2 ..	0·24	Do. ..		
288 part.	3·52	Do. ..		
291 ..	0·38	Do. ..		
292 ..	1·25	Do. ..		
293 ..	1·81	Do. ..		
294 ..	2·00	Do. ..		
295 ..	0·65	Do. ..	Pattas assigned after June 1907.	
296 ..	2·94	Do. ..		
297 ..	3·10	Do. ..		
298 ..	4·75	Do. ..		
299 part.	1·38	Do. ..		
300 ..	10·85	Do. ..		
301 ..	7·44	Do. ..		
302 ..	2·25	Do. ..		
303 part.	1·10	Do. ..		
304 ..	5·06	Do. ..		
305 ..	0·62	Do. ..		
275 part.	1·78	Do. ..	Stream.	
278 ..	5·74	Do. ..	Village-site.	
282 ..	2·68	Do. ..	Stream.	
288 ..	3·97	Do. ..	Do.	Poramboke.
291 ..	0·18	Do. ..	Do.	
295 ..	0·47	Do. ..	Do.	
299 ..	0·50	Do. ..	Do.	
303 ..	0·21	Do. ..	Do.	
1 ..	16·14	Pudur		
2-1 ..	8·06	Do.		
5 ..	16·00	Do. ..		
7 ..	28·55	Do.		
9 ..	25·20	Do.		
10 ..	21·95	Do.		
18 ..	11·99	Do.		
20 ..	10·41	Do.	Ownership of sandalwood trees purchased by Government subsequent to assignment on patta.	
22 ..	14·05	Do.		
28-1 ..	20·94	Do.		
34-1 ..	6·02	Do.		
35 ..	10·06	Do.		
36 ..	10·77	Do.		
45 ..	20·14	Do.		
56-2 ..	1·16	Do.		
3-1 ..	5·88	Do.		
3-2 ..	2·00	Do.		
3-3 ..	3·37	Do.		
4-1 ..	4·00	Do.		
4-2 ..	1·00	Do.		
6-1 ..	4·50	Do.	Pattas assigned after June 1907.	
6-3 ..	11·31	Do.		
6-4 ..	2·75	Do.		
12 ..	12·15	Do.		
15-2 ..	2·00	Do.		
15-3 ..	18·29	Do.		
19 ..	7·90	Do.		

* Area computed in the Working Plan office.

(b) Tiruppattur—*cont.*

Survey number. (1)	Area in acres. (2)	Village in which situated. (3)	Classification. (4)	
24-1	0·06	Pudur		Pattas assigned after June 1907.
26-1	2·96	Do.		
27	8·25	Do.		
29	2·50	Do.		
32	0·10	Do.		
33	2·86	Do.		
37	8·82	Do.		
38	11·10	Do		
39	4·14	Do.		
40	8·81	Do.		
41-1	1·04	Do.		
41-2	1·50	Do.		
41-3	8·35	Do.		
41-4	2·62	Do.		
41-5	2·50	Do.		
41-6	3·79	Do.		
41-7	1·25	Do.		
44-1	1·66	Do.		
44-2	6·65	Do.		
47-1	4·64	Do.		
47-2	1·60	Do.		
49	11·05	Do.		
50	13·80	Do.		
51-1	5·29	Do.		
51-2	4·51	Do.		
53	1·80	Do.		
54-2	2·62	Do.		
54-3	13·51	Do.		
55	8·69	Do.		
56-1	2·92	Do.		
57	7·29	Do.		
384	0·15	Do.		
385-1	3·83	Do.		
385-2	4·68	Do.		
386	2·79	Do.		
387	1·39	Do.		
392	0·98	Do.		
394	7·31	Do.		
388	1·00	Do.		
389	9·30	Do.		
390	3·84	Do.		
391	1·28	Do.		
393	10·02	Do.		
395	4·74	Do.		
450	Included in S. No. 41.	Do.		
454	*47·85	Do.		Unassessed waste. Newly formed survey numbers.
455		Do.		
456		Do.		
457		Do.		
458		Do.		
459		Do.		
460		Do.		
461		Do.		
462		Do.		
463		Do.		
464		Do.		
465		Do.		
466		Do.		
467		Do.		
3-4	20·55	Do.	Forest.	Poramboke.
4-3	8·00	Do.	Do.	
6-2	9·06	Do.	Cattle track.	
6-5	1·38	Do.	Forest.	
8	4·02	Do.	Footpath.	
11	27·25	Do.	Forest.	
15-1	2·31	Do.	Do.	
15-4	8·50	Do.	Do.	
16-3 B.	0·20	Do.	Forest subordinates quarters.	
16-3 C.	0·07	Do.	Well.	
17	2·50	Do.	Stream.	
21-1	2·26	Do.	Forest rest-house.	
23	2·87	Do.	Footpath.	
24-2	5·54	Do.	Temple.	
26-2	1·36	Do.	Stream.	
26-3	2·04	Do.	Forest.	
28-2	0·31	Do.	Burial-ground.	
32-1	8·32	Do.	Village-site.	
52	0·60	Do.	Burial-ground.	
54-1	1·19	Do.	Forest.	
54-3	3·88	Do.	Do.	
446	Included in S. No. 11.	Do.		Newly formed survey numbers by subdividing part of S. No. 11.
447		Do.		
449	Included in S. No. 15.	Do.		Newly formed survey number by subdividing part of S. No. 15.
448	Included in S. No. 14.	Do.		Newly formed survey number by subdividing part of S. No. 14.
82	8·30	Molalai		Ownership of sandalwood trees purchased by Government subsequent to assignment on patta.
91-1	4·25	Do.		
58	9·83	Do.		Pattas granted after June 1907.
60-1	3·24	Do.		
61	2·42	Do.		
67-3	1·10	Do.		
68-1	0·40	Do.		
72-1	0·74	Do.		
72-2	5·82	Do.		
79	3·35	Do.		
83-1	1·49	Do.		
83-2	7·04	Do.		
85	5·82	Do.		
87-1	0·14	Do.		
89	5·53	Do.		
92-1	0·87	Do.		
93	1·90	Do.		
94	1·71	Do.		
96	6·05	Do.		
96	2·92	Do.		
100	2·43	Do.		
101	13·87	Do.		
02-2	5·47	Do.		
480	*15·20	Molalai		Unassessed waste. Newly formed survey numbers.
481		Do.		
482		Do.		
499		Do.		
59	1·34	Do.	Forest.	Poramboke
63	1·35	Do.	Tank.	
66	2·19	Do.	Footpath.	
68-2	1·24	Do.	Do.	
70	9·30	Do.	Tank.	
74	1·46	Do.	Burial-ground.	
76	0·83	Do.	Temple.	
77	3·93	Do.	Village-site.	
80	1·11	Do.	Forest.	
81	2·41	Do.	Do.	
86	0·63	Do.	Temple.	
87-2	2·08	Do.	Village-site.	
92-2	1·95	Do.	Forest.	
97	0·53	Do.	Footpath.	
102-2	2·88	Do.	Forest.	
103-1	0·88	Do.	Do.	
103-2	13·69	Do.	Do.	
104	23·90	Do.	Do.	
107-1+2	43·31	Arumanaipatti		Ownership of Sandalwood trees purchased by Government subsequent to assignment on patta.
114	6·45	Do.		
127-1	20·70	Do.		
132-1	1·46	Do.		
105-1	1·98	Do.		
105-2	3·07	Do.		
106	7·63	Do.		
109-1	2·87	Arumanaipatti		Pattas assigned after June 1907.
109-2	4·09	Do.		
109-4	0·53	Do.		
115-2	0·15	Do.		
116-1	2·57	Do.		
116-2	2·83	Do.		
117-1	3·74	Do.		
117-2	2·63	Do.		
117-3	1·88	Do.		
119	4·75	Do.		
122	19·28	Do.		
123	14·58	Do.		
124-2	2·75	Do.		
126	5·85	Do.		
128-2	5·47	Do.		
129-1	3·38	Do.		
129-2	13·62	Do.		
396	1·14	Do.		
398-1	4·05	Do.		
398-2	2·50	Do.		
399	3·14	Do.		
400	5·69	Do.		
451	Included in S. No. 130.	Do.		Unassessed waste and newly formed by subdividing S. No. 130.
107-3	2·99	Do.	Burial-ground.	Poramboke.
109-3	1·56	Do.	Forest.	
111	4·88	Do.	Village-site.	
117-4	2·00	Do.	Cattle-track.	
118	12·07	Do.	Temple.	
125-1	2·02	Do.	Forest.	
125-2	14·35	Do.	Do.	
128-1	2·57	Do.	Do.	
128-3	1·06	Do.	Do.	
130	22·35	Do.	Do.	
451		Do.	Do.	
132-2	0·72	Do.	Do.	
397	7·80	Do.	Do.	
143	16·76	Chittur		Ownership of sandalwood trees purchased by Government subsequent to assignment on patta.
145-1	15·08	Do.		
155	17·15	Do.		
157	21·35	Do.		
135-1	4·20	Do.		Pattas assigned after June 1907.
136-2	6·77	Do.		
137	6·65	Do.		
139-1	1·06	Do.		
139-2	2·13	Do.		
139-3	9·07	Do.		
142	5·49	Do.		
146	1·37	Do.		
150	1·25	Do.		
151-2	2·10	Do.		
151-3	0·17	Do.		
152	6·26	Do.		
154	11·68	Do.		
401	1·57	Do.		
402	0·31	Do.		
404	7·79	Do.		
406-1	5·25	Do.		
406-2	40·54	Do.		
483	*21·40	Do.		Unassessed waste. Newly surveyed survey fields.
484		Do.		
485		Do.		
486		Do.		
487		Do.		
133	3·92	Do.	Forest.	Poramboke.
134	5·26	Do.	Do.	
135-2	3·24	Do.	Footpath.	
136-1	1·88	Do.	Cattle-track.	
138	1·17	Do	Stream.	
139-4	5·31	Do.	Forest.	
144	1·55	Do.	Village-site.	
147	4·43	Do.	Rock.	
149	0·79	Do.	Stream.	
151-1	4·75	Do.	Forest.	
156	29·57	Do.	Do.	
158	15·25	Do.	Do.	
403	0·52	Do.	Vilage-site.	
405	19·69	Do.	Forest.	
161-2	0·75	Melur		Pattas assigned after June 1907.
171-1	17·75	Do.		
171-2	0·44	Do.		
175-2	6·50	Do.		
177	0·37	Do.		
184-1	3·38	Do.		
184-2 A.	2·01	Do.		

* Area computed in the Working Plans Office.

(b) Tiruppattur—*cont.*

Survey number. (1)	Area in acres. (2)	Village in which situated. (3)	Classification. (4)	
188-1	2·50	Melur		
188-3	3·88	Do.		
188-4	3·00	Do.		
189-1	3·86	Do.		
191	6·54	Do.		
193-1	0·28	Do.		
200	6·18	Do.		
201	15·90	Do.	Pattas assigned after June 1907.	
407-1	2·82	Do.		
407-2	15·32	Do.		
407-3	4·25	Do.		
408-1	3·76	Do.		
409-1	6·26	Do.		
409-3	3·51	Do.		
160	3·09	Do.	Forest.	
161-1	22·10	Do.	Do.	
162	1·23	Do.	Do.	
163-1	2·00	Do.	Do.	
163-2	10·30	Do.	Do.	
163-3	2·25	Do.	Do.	
164	0·74	Do.	Do.	
166	12·32	Do.	Rock.	
168	0·43	Do.	Temple.	
169	2·77	Do.	Footpath.	
171-3	17·06	Do.	Forest.	
173	0·81	Do.	Tank.	
175-1	0·75	Do.	Footpath.	
175-3	6·07	Do.	Rock.	
176	4·25	Do.	Cattle-stand.	Poramboke.
180	2·33	Do.	Village-site.	
181-1	0·95	Do.	Cattle-stand.	
182	9·87	Do.	Forest.	
184-2 A.	30·59	Do.	Do.	
184-2 B.	7·04	Do.	Do.	
185	3·92	Do.	Do.	
186	11·00	Do.	Do.	
188-2	7·02	Do.	Do.	
189-2	0·40	Do.	Well.	
193-2	7·17	Do.	Temple.	
194-1	0·38	Do.	Forest.	
194-2+3	24·67	Do.	Stream.	
196	0·42	Do.	Cattle-track.	
407-4	32·38	Do.	Forest.	
408-2	21·80	Do.	Do.	
409-2	16·03	Do.	Do.	
410	15·38	Do.	Do.	
202	42·55	Kilur		
207-2+3.	19·34	Do.		
215	22·62	Do.		
224	13·32	Do.		
227	5·44	Do.		
231	33·80	Do.		
232	5·88	Do.		
235	20·62	Do.		
240	1·50	Do.	Ownership of sandalwood trees purchased by Government after assignment on patta.	
241	2·58	Do.		
242	2·83	Do.		
258	16·57	Do.		
261-2	19·48	Do.		
203-2	2·19	Do.		
207-6	5·27	Do.		
212-2+3.	15·69	Do.		
213-1 to 6.	9·19	Do.		
219-1	9·55	Do.		
221	5·62	Do.		
245	17·43	Do.		
250	14·97	Do.	Pattas assigned after June 1907.	
251-1	13·70	Do.		
251-2	2·25	Do.		
263-1 to 3.	19·90	Do.		
265-2	0·19	Do.		
412	·2·40	Do.		
414-2	12·76	Do.		
415	0·30	Do.		
419-1 to 3.	8·01	Do.		
492		Do.		
493		Do.		
494		Do.		
495	*33·26	Do.	Newly formed survey numbers.	
496		Do.		
497		Do.		
498		Do.		
203-1	22·12	Do.	Forest.	
206-1	10·09	Do.	Do.	
206-2	1·81	Do.	Do.	
209	5·24	Do.	Village-site.	
212-1	0·25	Do.	Burial-ground.	
212-4	2·00	Do.	Forest.	
212-5	19·32	Do.	Do.	
213-3 B.	6·96	Do.	Footpath.	
216	2·80	Do.	Forest.	
218	6·17	Do.	Do.	
221-3	5·54	Do.	Foot path.	
221-4	0·75	Do.	Forest.	
221-5	0·94	Do.	Do.	
225	15·15	Do.	Cattle-track.	
229	1·55	Do.	Footpath.	
230	4·70	Do.	Do.	Poramboke.
234	7·27	Do.	Forest.	
239	13·45	Do.	Stream.	
243-2	1·08	Do.	Forest.	
247-3	0·20	Do.	Footpath.	
253	0·75	Do.	Do.	
254	5·12	Do.	Cattle-track.	
257	4·25	Do.	Footpath.	
262	11·40	Do.	Stream.	
263-4	70·64	Do.	Forest.	
265 A	9·66	Do.	Do.	
411	4·72	Do.	Footpath.	
413	4·72	Do.	Forest.	
414-1	14·82	Do.	Do.	
416	0·21	Do.	Do.	
417	0·51	Do.	Do.	
418	0·29	Do.	Stream.	
419-2	0·96	Kilur	Stream.	
420	1·34	Do.	Forest.	
421	2·66	Do.	Do.	
422	4·41	Do.	Do.	Poramboke.
423	0·44	Do.	Do.	
424	0·76	Do.	Do.	
425	0·74	Do.	Do.	
266	17·35	Kombai		
297	6·33	Do.		
298	13·28	Do.	Ownership of sandalwood trees purchased by Government subsequent to assignment on patta.	
301	13·35	Do.		
302-3	5·35	Do.		
311	24·75	Do.		
287-1	6·72	Do.		
288	9·77	Do.		
290	11·23	Do.		
299	10·37	Do.		
300	9·73	Do.		
305	8·09	Do.		
309	7·07	Do.		
312	3·55	Do.		
313-2	3·45	Do.		
318	1·84	Do.		
320-2	14·00	Do.	Pattas assigned after June 1907.	
321	10·17	Do.		
323	13·50	Do.		
324	8·85	Do.		
325	11·20	Do.		
326	8·15	Do.		
426	21·48	Do.		
427	1·12	Do.		
428	2·76	Do.		
429	3·37	Do.		
430	6·04	Do.		
431	4·90	Do.		
432	7·79	Do.		
310	11·91	Do.		
322	9·66	Do.	Assessed waste.	
426	5·01	Do.		
488		Do.		
489	*18·03	Do.	Unassessed waste. Newly formed survey numbers.	
490		Do.		
491		Do.		
271	5·80	Do.	Footpath.	
274	1·21	Do.	Cattle-track.	
275	1·15	Do.	Do.	
276	1·52	Do.	Do.	
279	1·18	Do.	Burial ground.	
284	0·70	Do.	Cattle-track.	
285	8·21	Do.	Temple	
286	3·73	Do.	Cattle-track.	Poramboke.
287-2	1·80	Do.	Stream.	
292	4·95	Do.	Footpath.	
295	0·93	Do.	Cattle-track.	
304	0·65	Do.	Do.	
313	1·13	Do.	Burial-ground.	
314-2	0·76	Do.	Stream.	
315	10·55	Do.	Village-site.	
317-1	1·98	Do.	Well.	Poramboke.
317-2	0·69	Do.	Footpath.	
433	1·85	Do.	Forest.	
329	7·40	Nadukuppanur		
333	7·27	Do.		
336-2	8·22	Do.		
337	4·91	Do.	Ownership of sandalwood trees purchased by Government subsequent to assignment on patta.	
341	16·80	Do.		
344-2	9·48	Do.		
347	23·32	Do.		
348	7·74	Do.		
336-1	0·37	Do.		
345-3	6·11	Do.		
345-4	3·69	Do.		
346-1	0·27	Do.		
346-2	0·52	Do.	Pattas assigned after June 1907.	
346-3	1·87	Do.		
434-1	8·30	Do.		
444	1·44	Do.		
445	5·12	Do.		
340	3·37	Do.		
335	6·00	Do.	Assessed waste.	
332-1	1·45	Do.		
328	1·91	Do.	Footpath.	
331	1·40	Do.	Temple.	
334	1·06	Do.	Footpath.	
338	1·63	Do.	Do.	
343	0·88	Do.	Do.	Poramboke.
345-1	4·87	Do.	Village-site.	
345-2	0·38	Do.	Footpath.	
346-4	0·12	Do.	Do.	
434-2	0·70	Do.	Cattle-track.	
359	16·40	Velankuppam	Ownership of sandalwood trees purchased by Government subsequent to assignment.	
349	3·75	Do.		
352	19·70	Do.		
354	1·76	Do.		
356-2	0·55	Do.	Pattas assigned after June 1907	
357	8·95	Do.		
358	1·18	Do.		
443	0·82	Do.		
351	1·10	Do.	Footpath.	
353	1·43	Do.	Village-site.	Poramboke.
355	0·36	Do.	Footpath.	
362	5·18	Valathalampatti.		
372-3	5·00	Do.	Ownership of sandalwood trees purchased by Government subsequent to assignment.	
378	30·85	Do.		
382	8·95	Do.		

* Area computed in the Working Plans Office.

(b) Tiruppattur—*cont.*

Survey number. (1)	Area in acres. (2)	Village in which situated. (3)	Classification. (4)	
361-1 and 2.	4·15	Valathalampatti.		
371 ..	13·53	Do.		
373 ..	3·93	Do.		
376 part.	15·78	Do.		
379 ..	18·49	Do.		
380 ..	8·00	Do.		
435 part.	69·20	Do.		Pattas assigned after June 1907.
437 ..	2·87	Do.		
438 ..	3·98	Do.		
439 ..	0·37	Do.		
441 ..	0·69	Do.		
442 ..	0·57	Do.		
435-3 ..	13·12	Do.		
436-2 ..	2·26	Do.		Assessed waste.
440 ..	0·26	Do.		
468 ..		Do.		
469 ..		Do.		
470 ..		Do.		
471 ..	Newly	Do.		
472 ..	formed	Do.		
473 ..	S. Nos.	Do.		
474 ..	*	Do.		Unassessed waste. Newly formed survey numbers.
475 ..	67·64	Do.		
476 ..		Do.		
477 ..		Do.		
478 ..		Do.		
479 ..		Do.		
363 ..	6·68	Do.	Village-site.	
366 ..	1·15	Do.	Cattle stand.	
369 ..	7·08	Do.	Burial-ground.	
371-1 A.	0·75	Do.	Cattle-track.	
371-3 ..	6·07	Do.	Forest.	
374 ..	0·78	Do.	Cattle stand.	
376 ..	5·87	Do.	Forest.	
379-1 ..	2·81	Do.	Cattle-track.	Poramboke.
381 ..	0·95	Do.	Do.	
435-2 ..	5·81	Do.	Forest.	
436-1 ..	1·66	Do.	Stream.	
435-5 B.	5·16	Do.	Forest.	
435-5 D.	2·40	Do.	Cattle-track.	
435-5 G.	2·11	Do.	Forest.	
4-2 ..	18·92	Nellivasal ..		
10 ..	24·15	Do. ..		
13 ..	12·38	Do. ..		
14 ..	5·55	Do. ..		Ownership of sandalwood trees purchased by Government subsequent to assignment.
16 ..	8·10	Do. ..		
38 ..	15·42	Do. ..		
42 ..	10·14	Do. ..		
43 ..	30·45	Do. ..		
2 part.	30·39	Do. ..		
7 "	13·04	Do. ..		
15 "	9·53	Do. ..		
20 ..	51·75	Do. ..		
41 part.	8·60	Do. ..		Pattas assigned after June 1907.
44 ..	15·89	Do. ..		
327 ..	3·97	Do. ..		
328 ..	14·99	Do. ..		
329 ..	4·95	Nellivasal ..		
330 ..	14·07	Do. ..		
331 ..	4·18	Do. ..		
332 ..	3·13	Do. ..		
333 ..	8·88	Do. ..		
334 ..	3·82	Do. ..		
335-2 ..	7·11	Do. ..		
336 ..	16·24	Do. ..		
337 ..	20·08	Do. ..		
338-2 ..	1·99	Do. ..		
339 ..	15·14	Do. ..		
340 ..	7·44	Do. ..		
341 ..	16·18	Do. ..		
342 part.	4·06	Do. ..		
343 ..	8·77	Do. ..		
345 ..	11·78	Do. ..		
346 ..	20·45	Do. ..		Pattas assigned after June 1907.
347 ..	16·20	Do. ..		
348 part.	7·45	Do. ..		
349 ..	3·88	Do. ..		
351 ..	34·89	Do. ..		
352 ..	2·34	Do. ..		
353 ..	2·03	Do. ..		
355 ..	7·12	Do. ..		
356-2 ..	1·42	Do. ..		
357 ..	4·15	Do. ..		
358 ..	5·77	Do. ..		
359 ..	1·03	Do. ..		
360 ..	9·51	Do. ..		
361 ..	1·98	Do. ..		
362 ..	2·14	Do. ..		
363 ..	2·98	Do. ..		
364 ..	1·87	Do. ..		
2-4 D.	4·76	Do.	Temple.	
5 ..	1·50	Do.	Road.	
6 part.	2·45	Do.	Forest rest-house and subordinates quarters.	
7-1 ..	0·98	Do. ..	Burial-ground.	
7-3 B.	0·65	Do. ..	Temple.	
7-3 C-2.	2·06	Do. ..	Stream.	
7-2 B	0·70	Do. ..	Cattle-stand.	
11 ..	1·62	Do. ..	Road.	
18 ..	1·43	Do. ..	Stream.	
30 ..	5·56	Do. ..	Village-site.	
36 ..	1·95	Do. ..	Stream	Poramboke.
39 ..	1·58	Do. ..	Do.	
41 part.	19·13	Do. ..	Forest.	
335-1 ..	4·67	Do. ..	Do.	
338-1 ..	1·90	Do. ..	Cattle-track.	
342 part.	5·34	Do. ..	Forest.	
344 ..	15·40	Do. ..	Cattle-track.	
348 part.	1·40	Do. ..	Forest.	
350 ..	2·56	Do. ..	Road and stream.	
354 ..	1·14	Do. ..	Stream.	
356-1 ..	0·78	Do. ..	Do.	
356-3 ..	3·55	Do. ..	Forest.	

Survey number. (1)	Area in acres. (2)	Village in which situated. (3)	Classification. (4)	
25 ..	17·88	Nellipatti ..		
62-1 ..	6·95	Do. ..		Ownership of sandalwood trees purchased by Government subsequent to assignment on patta.
68 ..	6·56	Do. ..		
73 ..	8·82	Do. ..		
77-1 ..	15·29	Do. ..		
314 ..	5·38	Do. ..		
46 ..	1·06	Do. ..		
54 ..	12·06	Do. ..		
61 part.	12·80	Do. ..		
66 ..	3·00	Do. ..		
79 ..	5·74	Do. ..		
84 ..	0·25	Do. ..		
85 ..	2·42	Do. ..		
90 ..	10·42	Do. ..		
483 ..	42·56	Do. ..		
484 ..	8·97	Do. ..		
485 ..	1·60	Do. ..		Pattas assigned after June 1907.
486 ..	1·07	Do. ..		
487 ..	3·10	Do. ..		
488 ..	11·22	Do. ..		
489 ..	2·35	Do. ..		
490 ..	9·48	Do. ..		
491 ..	7·42	Do. ..		
492 ..	3·49	Do. ..		
493 ..	2·45	Do. ..		
494 ..	6·15	Do. ..		
75-1 ..	1·29	Do. ..	Assessed waste.	
48 ..	0·52	Do. ..	Road.	
56 ..	0·55	Do. ..	Well.	
57 ..	1·25	Do. ..	Do.	
58 ..	0·34	Do. ..	Footpath.	
59 ..	3·17	Do. ..	Village-site.	
61 part.	20·62	Do. ..	Forest.	
62 "	0·43	Do. ..	Footpath.	
64 ..	5·50	Do. ..	Do.	
65-2 ..	0·35	Do. ..	Do.	
69 ..	0·78	Do. ..	Road.	
71 ..	0·21	Do. ..	Do.	Poramboke.
72 ..	2·85	Do. ..	Do.	
74 ..	0·47	Do. ..	Do.	
75-2 ..	0·04	Do. ..	Do.	
76 ..	1·12	Do. ..	Do.	
77-2 ..	0·66	Do. ..	Temple.	
81 ..	3·25	Do. ..	Road.	
84-1 ..	3·18	Do. ..	Do.	
86 ..	0·75	Do. ..	Do.	
90- 1 B.	30·23	Do. ..	Forest.	
483-1 A.	1·64	Do. ..	Stream and cattle-track.	
495 ..	4·63	Do. ..	Forest.	
92 ..	5·67	Chembarai ..		
93-2 ..	2·92	Do. ..		
93-3 ..	6·70	Do. ..		
95 ..	12·30	Do. ..		
98 ..	2·82	Do. ..		
99 ..	4·89	Do. ..		
101-2 ..	3·33	Do. ..		Ownership of sandalwood trees purchased by Government subsequent to assignment on patta.
107 ..	17·00	Do. ..		
111-1 ..	7·65	Do. ..		
114 ..	2·02	Do. ..		
116 ..	2·86	Do.		
117 ..	15·85	Do. ..		
119 ..	10·75	Do. ..		
120 ..	6·47	Do. ..		
126-2 ..	15·06	Do. ..		
91-3 B.	1·12	Do. ..		
100 part.	20·23	Do. ..		
104 "	18·29	Do. ..		
108-1 B.	0·55	Do. ..		
111 part.	35·55	Do. ..		
118-2 ..	0·52	Do. ..		
125 part.	6·99	Do. ..		
126-1 ..	2·88	Do. ..		
466 ..	5·60	Do. ..		
467 ..	2·05	Do. ..		
468 ..	1·06	Do. ..		
469 ..	6·03	Do. ..		
				Pattas assigned after June 1907.
470 ..	2·17	Do. ..		
471 part.	14·42	Do. ..		
472 ..	7·03	Do. ..		
473 ..	0·63	Do. ..		
474 ..	0·68	Do. ..		
475 ..	8·82	Do. ..		
476 ..	5·34	Do. ..		
477 ..	3·36	Do. ..		
478 ..	0·61	Do. ..		
479 ..	1·49	Do. ..		
480 ..	2·82	Do. ..		
481 ..	3·61	Do. ..		
482 ..	1·29	Do. ..		
111-1 A.	4·45	Do. ..	Assessed waste	
93-1 ..	0·07	Do. ..	Well.	
94-2 ..	0·42	Do. ..	Temple.	
96 ..	2·02	Do. ..	Village-site.	
97-3 A.	3·40	Do. ..	Forest.	
100- 1 C-1.	2·62	Do. ..	Do.	
102 ..	1·33	Do. ..	Footpath.	
104-1 A.	10·79	Do. ..	Rock.	
104-3 ..	0·63	Do. ..	Footpath.	
105-3 ..	0·10	Do. ..	Do.	
106-2 ..	0·28	Do. ..	Do.	Poramboke.
106-3 ..	1·98	Do. ..	Forest.	
108-1 A.	0·25	Do. ..	Footpath.	
109 ..	1·28	Do. ..	Do.	
111-8 ..	3·05	Do. ..	Forest.	
118-1 ..	1·14	Do. ..	Footpath.	
121 ..	2·00	Do. ..	Pond.	
122 ..	1·18	Do. ..	Footpath.	
125-1 B.	13·56	Do. ..	Hill.	
127 ..	1·13	Do. ..	Footpath.	

* Area computed in the Working Plans Office.

(b) Tiruppattur—*cont.*

Survey number. (1)	Area in acres. (2)	Village in which situated. (3)	Classification. (4)	
471-3 ..	4·31	Chembarai ..	Stream poramboke	
137 ..	15·05	Melpattu ..		
138-2 ..	4·43	Do. ..		
140 ..	9·03	Do. ..	Ownership of sandalwood trees purchased by Government subsequent to assignment ou patta.	
141-1 ..	6·22	Do. ..		
143-2 ..	4·65	Do. ..		
171-2 ..	3·63	Do. ..		
321 ..	9·19	Do. ..		
322 ..	6·10	Do. ..		
133 ..	7·65	Do. ..		
134 ..	2·84	Do. ..		
136-2 ..	11·95	Do. ..		
139-1 ..	7·10	Do. ..		
142-1 ..	2·62	Do. ..		
143 part	2·02	Do. ..		
145 ,,	7·16	Do. ..		
150 ..	1·74	Do. ..		
151 ..	1·23	Do. ..		
152 ..	0·62	Do. ..		
156 part.	3·72	Do. ..		
158 ,,	3·89	Do. ..		
163 ..	0·48	Do. ..		
166 ..	4·80	Do. ..		
168 ..	3·20	Do. ..		
169 ..	7·48	Do. ..		
173 ..	9·50	Do. ..		
179 ..	1·95	Do, ..		
181 ..	11·55	Do. ..		
183-2 ..	1·01	Do. ..		
435 ..	8·23	Do. ..		
436 ..	3·54	Do. ..		
437 ..	3·24	Do. ..		
438 ..	7·20	Do. ..		
439 ..	6·53	Do. ..	Pattas assigned after June 1907.	
440 ..	1·84	Do. ..		
441 ..	4·18	Do. ..		
442 ..	2·79	Do. ..		
443 part.	9·14	Do. ..		
444 ..	9·42	Do. ..		
445 ..	2·72	Do. ..		
446 ..	11·25	Do. ..		
447 ..	2·99	Do. ..		
448-2 ..	3·68	Do. ..		
449 ..	13·03	Do. ..		
450-2 ..	6·36	Do. ..		
451-2 ..	7·59	Do. ..		
452 ..	16·09	Do. ..		
453 part.	11·93	Do. ..		
454-2 ..	7·90	Do. ..		
455 ..	5·12	Do. ..		
456 ..	3·55	Do. ..		
457 ..	3·05	Do. ..		
458 ..	5·42	Do. ..		
459/2 ..	10·85	Do. ..		
460 ..	7·35	Do. ..		
462 ..	1·16	Do. ..		
463 ..	3·46	Do. ..		
464 ..	12·57	Do. ..		
136-1 ..	4·50	Do. ..	Forest.	
139-2 ..	15·40	Do. ..	Do.	
143-1 ..	15·33	Do. ..	Do.	
145-2 ..	4·21	Do. ..	Do.	
147 ..	0·25	Do. ..	Cattle-track.	
154 ..	5·80	Do. ..	Village-site.	
156-3 ..	1·53	Do. ..	Cattle-track.	
158-3 ..	8·36	Do. ..	Temple.	
162 ..	2·00	Do. ..	Cattle-track.	
171-1 ..	0·31	Do. ..	Footpath.	
171-3 ..	1·35	Do. ..	Cattle-track.	
171-4 ..	5·06	Do. ..	Forest.	
174 ..	0·47	Do. ..	Cattle-track.	Poramboke.
182 ..	0·85	Do. ..	Do.	
443-3 ..	1·56	Do. ..	Stoney ground	
448-1 ..	1·80	Do. ..	Forest.	
450-1 ..	0·60	Do. ..	Cattle-track.	
451-1 ..	0·66	Do. ..	Do.	
453-3 ..	4·50	Do. ..	Stoney ground.	
454-1 ..	5·85	Do. ..	Forest.	
459-1 ..	0·46	Do. ..	Cattle-track.	
461 ..	17·62	Do. ..	Hill.	
465 ..	1·24	Do. ..	Forest.	
199 ..	28·40	Puliyur		
208 ..	15·34	Do.		
210 ..	18·80	Do.		
213 ..	3·85	Do. ..		
214 ..	11·84	Do.	Ownership of sandalwood trees purchased by Government subsequent to assignment on patta.	
215 ..	18·85	Do.		
220 ..	33·72	Do.		
223-1 ..	8·82	Do.		
244 ..	6·72	Do.		
263 ..	14·32	Do.		
265 ..	18·15	Do.		
206 ..	12·05	Do.		
207 ..	4·14	Do.		
209 ..	20·43	Do.		
216 part.	29·97	Do.		
217 ..	11·02	Do.		
218 ..	11·72	Do.		
219 ..	60·20	Do.		
22S ..	0·90	Do.		
230 ..	12·93	Do.		
234 ..	27·92	Do.		
236 ..	21·75	Do.		
237 ..	56·37	Do.		
243-1 ..	4·11	Do.	Pattas assigned after June 1907.	
246 part.	51·70	Do.		
250-1 ..	31·09	Do.		
251 part.	81·50	Do.		
253 ..	6·70	Do.		
254 ..	4·57	Do.		
256 ..	20·87	Do.		
257 ..	9·32	Do.		
406 ..	14·85	Do.		
408 ..	1·94	Do.		
409 ..	7·89	Do.		
410 ..	5·03	Do.		

Survey number. (1)	Area in acres. (2)	Village in which situated. (3)	Classification. (4)	
411 ..	7·54	Puliyur		
412 ..	10·43	Do.		
413 ..	2·28	Do.		
414 ..	2·98	Do.		
415-1 ..	5·81	Do.		
416 ..	1·42	Do.		
417 ..	5·05	Do.		
418 ..	0·26	Do.		
419 ..	1·00	Do.		
420 part.	18·80	Do.		
421 ..	0·10	Do.	Pattas assigned after June 1907.	
422 ..	2·57	Do.		
423 part.	43·70	Do.		
427 ..	52·96	Do.		
429 ..	12·91	Do.		
430 ..	0·97	Do.		
431 ..	3·56	Do. . ..		
432 ..	0·80	Do.		
433-2 ..	10·40	Do.		
434 ..	4·92	Do.		
189 ..	2·12	Do.		
190 ..	21·26	Do.		
191 ..	0·63	Do.		
192 ..	4·01	Do.		
193 ..	11·05	Do.		
194 ..	1·79	Do.	Assessed waste.	
195 ..	2·12	Do.		
196 ..	2·27	Do.		
197 ..	6·03	Do.		
201-2 ..	0·94	Do.		
201-1 ..	8·21	Do.	Road.	
205 ..	1·05	Do.	Stoney ground.	
212 ..	1·56	Do.	River.	
216-2 A.	2·03	Do.	Stream.	
225 ..	9·32	Do.	Forest.	
226 ..	2·28	Do.	Do.	
233 ..	4·06	Do.	Stoney ground.	
239 ..	1·67	Do.	Footpath.	
246-2 ..	0·88	Do.	Burial-ground.	
247 ..	14·22	Do.	Village-site.	
251-4 B-2.	24·70	Do.	Forest.	
260 ..	1·50	Do.	Village-site.	
262 ..	3·35	Do.	Road.	Poramboke.
407 ..	7·72	Do.	Forest.	
415-2 ..	0·61	Do.	Cattle-track.	
420-2 B.	8·40	Do.	Forest.	
423-2 ..	2·13	Do.	Cattle-track.	
424 ..	2·89	Do.	Do.	
425 ..	20·29	Do.	Forest.	
426 ..	4·23	Do.	Temple.	
428 ..	1·75	Do.	Cattle-track.	
433-1 ..	1·65	Do.	Do.	
296-2 ..	1·27	Malai Tirupatur.	Ownership of sandalwood trees purchased by Government subsequent to assignment on patta.	
273 part.	0·27	Malai Tirupatur.		
276 ,,	0·37	Do.		
278 ,,	11·96	Do.		
291 ..	2·05	Do.		
293-2 ..	0·18	Do.		
296-1 ..	6·74	Do.		
298 ..	3·05	Do.		
300 ..	3·80	Do.		
386 ..	4·63	Do.		
387 ..	3·45	Do.		
388 ..	0·25	Do.		
389 ..	11·60	Do.		
390 ..	5·54	Do.		
391 ..	14·58	Do.	Pattas assigned after June 1907.	
392 ..	20·86	Do.		
393 ..	4·37	Do.		
394 ..	11·69	Do.		
395 ..	9·04	Do.		
396 ..	3·27	Do.		
397 ..	1·99	Do.		
398 ..	6·10	Do.		
399 ..	0·82	Do.		
401 ..	1·56	Do.		
402 ..	0·36	Do.		
403 ..	0·87	Do.		
404 ..	8·35	Do.		
405 ..	6·38	Do.		
273-3 ..	13·78	Do.	Stoney ground.	
276-2 ..	1·58	Do.	Road.	
278-4 ..	4·24	Do.	Temple.	
278-6 ..	0·65	Do.	Cattle-track.	
280 ..	1·46	Do.	Road.	
282 ..	0·96	Do.	Do.	Poramboke.
287 ..	2·90	Do.	Village-site.	
293-1 ..	4·14	Do.	Tank.	
295 ..	2·84	Do.	Road.	
397-2 ..	1·22	Do.	Stoney ground.	
400 ..	0·48	Do.	Cattle-track.	
305 ..	17·81	Malaiyandapatti.	Ownership of sandalwood trees purchased by Government subsequent to assignment on patta.	
307-1 ..	10·23	Do.		
303 part.	2·81	Do.		
308 ..	1·86	Do.		
367-1 ..	21·18	Do.		
368-2 ..	0·43	Do.		
369 ..	5·77	Do.		
370 ..	13·05	Do.		
371 ..	8·46	Do.		
372 ..	4·52	Do.		
373 ..	14·93	Do.		
375 ..	8·05	Do.	Pattas assigned after June 1907.	
376 part.	3·51	Do.		
377 ..	5·80	Do.		
379 ..	23·30	Do.		
380 ..	3·77	Do.		
381 ..	1·95	Do.		
382 ..	1·33	Do.		
383 ..	1·18	Do.		
384 ..	1·32	Do.		
385 ..	0·63	Do.		

(b) Tiruppattur—*cont.*

Survey number. (1)	Area in acres. (2)	Village in which situated. (3)	Classification. (4)	
365 ..	2·96	Malaiyandapatti.	Assessed waste.	
366 ..	3·30	Do.		
303-2 ..	4·54	Do.	Stream and cattle-track.	Poramboke.
306 ..	1·98	Do.	Cattle-track.	
310 ..	8·03	Do.	Cattle-track and stoney ground.	
367-2 ..	2·62	Malaiyandapatti.	Stream.	Poramboke.
368 part.	2·16	Do.	Forest.	
374 ..	6·39	Do.	Village-site.	
376-2 ..	5·00	Do.	Temple.	
378 ..	1·71	Do.	Forest.	
311 ..	11·40	Andramalai ..	Do.	

NOTE.—The above statement is correct up to 17th January 1937.

(c) Chengam.

Survey number. (1)	Area in acres. (2)	Village in which situated. (3)	Classification. (4)
1 ..	4·96	Padapanjamarathur.	Patta lands.
4 ..	16·28	Do.	
6 ..	2·82	Do.	
8 ..	3·49	Do.	
10 ..	58·20	Do.	
11-1 ..	12·17	Do.	
13 ..	20·72	Do.	
14 ..	4·50	Do.	
16 ..	20·23	Do.	
21 ..	23·61	Do.	
23 ..	3·35	Do.	
25 ..	16·63	Do.	
28 ..	12·50	Do.	
29 ..	7·34	Do.	
31 ..	11·48	Do.	
32 ..	21·18	Do.	
34 ..	18·74	Do.	
37-1 ..	5·62	Do.	
38 ..	22·75	Do.	
39 ..	14·56	Do.	
41 ..	5·38	Do.	
44 ..	25·62	Do.	
45 ..	40·18	Do.	
47 ..	0·53	Do.	
48 ..	22·50	Do.	
51 ..	16·40	Do.	
54 ..	22·75	Do.	
55 ..	26·38	Do.	
57 ..	0·94	Do.	
59 ..	13·97	Do.	
62 ..	14·58	Do.	
3 ..	24·58	Do.	Fields not assigned on patta including porambokes.
43 ..	2·72	Do.	
46 ..	28·80	Do.	
49 ..	4·74	Do.	
52 ..	17·30	Do.	
53 ..	4·88	Do.	
58 ..	44·25	Do.	
63 ..	15·59	Do.	
33 ..	2·90	Do.	
35 ..	19·32	Do.	
36 ..	39·38	Do.	
42 ..	164·91	Do.	
50 ..	13·70	Do.	
64 ..	51·88	Do.	
2 ..	0·47	Do.	
5 ..	1·49	Do.	
7 ..	0·56	Do.	
9 ..	1·25	Do.	
11-2 ..	0·23	Do.	
12 ..	1·60	Do.	
15 ..	4·35	Do.	
17 ..	5·40	Do.	
18 ..	3·47	Do.	
19 ..	5·60	Do.	
20 ..	1·98	Do.	
22 ..	0·89	Do.	
24 ..	1·59	Do.	
26 ..	9·15	Do.	
27 ..	2·63	Do.	
30 ..	0·25	Do.	
37-2 ..	0·14	Do.	
40 ..	0·24	Do.	
56 ..	0·15	Do.	
60 ..	1·20	Do.	
61 ..	0·23	Do.	
9 ..	11·98	Puliyur ..	Patta lands.
15 ..	10·98	Do. ..	
23 ..	22·89	Do. ..	
24 ..	7·46	Do. ..	
30 ..	30·90	Do. ..	
32 ..	11·34	Do. ..	
35 ..	15·38	Do. ..	
37-1 ..	9·67	Do. ..	
38 ..	12·22	Do. ..	
1 ..	2·24	Do. ..	Fields not assigned on patta including porambokes.
2-1 ..	8·96	Do. ..	
3 ..	20·10	Do. ..	
4 ..	0·61	Do. ..	
5 ..	8·34	Do. ..	
6 ..	2·50	Do. ..	
8 ..	10·72	Do. ..	
14 ..	6·92	Do. ..	
16 ..	6·22	Do. ..	
17 ..	10·42	Do. ..	
19 ..	1·96	Do. ..	
21 ..	9·90	Do. ..	
26-1 ..	31·95	Do. ..	
27 ..	7·88	Do. ..	
29 ..	7·40	Do. ..	
33 ..	24·91	Do. ..	
34 ..	12·88	Do. ..	
41 ..	13·38	Do. ..	
42 ..	5·59	Do. ..	
43 ..	4·19	Do. ..	
44 ..	12·75	Do. ..	
2-2 ..	3·20	Do. ..	
7 ..	10·33	Do. ..	
10 ..	1·80	Do. ..	
11 ..	17·13	Do. ..	
12 ..	2·00	Puliyur ..	Fields not assigned on patta including porambokes.
13-1 ..	3·45	Do. ..	
2 ..	1·54	Do. ..	
22 ..	194·00	Do. ..	
37-2 ..	1·79	Do. ..	
40 ..	30·68	Do. ..	
18 ..	0·95	Do. ..	
25 ..	3·84	Do. ..	
26-2 ..	1·30	Do. ..	
28 ..	1·44	Do. ..	
31 ..	3·10	Do. ..	
36 ..	0·68	Do. ..	
39 ..	0·72	Do. ..	
3 ..	14·43	Mel Tattiyapattu.	Patta lands.
4-1 ..	8·32	Do.	
6 ..	18·52	Do.	
10 ..	35·25	Do. ..	
2 ..	27·44	Do.	Fields not assigned on patta including porambokes.
5 ..	2·15	Do.	
8 ..	4·20	Do.	
12 ..	7·60	Do.	
13 ..	4·64	Do.	
1 ..	9·88	Do.	
4-2 ..	0·45	Do.	
11 ..	0·80	Do.	
7 ..	0·48	Do.	
9 ..	4·65	Do.	
1 ..	33·73	Kil Thattiyapattu.	Patta lands.
2 ..	3·34	Do.	
3 ..	1·44	Do.	
6-1 ..	1·80	Do.	
6-2 ..	5·12	Do.	
6-3 ..	1·52	Do.	
4 ..	1·82	Do.	Fields not assigned on patta.
5 ..	0·81	Do.	
2 ..	10·89	Nellivoi	Patta lands.
5 ..	18·61	Do.	
9 ..	22·62	Do.	
14 ..	5·64	Do.	
15-2 ..	0·46	Do.	
16 ..	3·75	Do.	
17-1 ..	6·80	Do.	
2 ..	5·63	Do.	
18 ..	15·77	Do.	
19 ..	14·28	Do.	
21 ..	23·30	Do.	
22 ..	6·81	Do.	
25-1 ..	1·91	Do.	
2 ..	1·41	Do.	
4 ..	1·70	Do.	
26 ..	1·76	Do.	
33 ..	8·65	Do.	
1 ..	11·20	Do.	Fields not assigned on patta.
8 ..	10·22	Do.	
10 ..	1·50	Do.	
11 ..	6·17	Do.	
12 ..	2·90	Do.	
13 ..	5·71	Do.	
15-1 ..	11·97	Do.	
24 ..	7·23	Do.	
27 ..	9·12	Do.	
28 ..	11·76	Do.	
29 ..	4·88	Do.	
30 ..	8·79	Do.	
32 ..	9·40	Do.	
3 ..	7·96	Do.	
4 ..	18·60	Do.	
7 ..	2·16	Do.	
20 ..	4·58	Do.	
31 ..	6·92	Do.	
34 ..	98·90	Do.	
6 ..	0·51	Do.	
23 ..	5·61	Do.	
25-3 ..	0·60	Do.	
3 ..	16·64	Erukkampattu ..	Patta lands.
5 ..	21·30	Do. ..	
7 ..	16·00	Do. ..	
9-1 ..	11·36	Do. ..	
10 ..	16·30	Do. ..	
1 ..	12·80	Do. ..	Fields not assigned on patta.
9-2 ..	0·60	Do. ..	
14 ..	23·95	Do. ..	
6 ..	48·60	Do. ..	
12 ..	11·89	Do. ..	
2 ..	0·82	Do. ..	
4 ..	1·13	Do. ..	
8 ..	1·68	Do. ..	
11 ..	0·50	Do. ..	
13 ..	6·76	Do. ..	
1 ..	22·80	Athipattu ..	Patta lands.
3 ..	2·30	Do. ..	
4 ..	10·28	Do. ..	
5 ..	5·99	Do. ..	
6 ..	7·93	Do. ..	
9 ..	18·67	Do. ..	
10 ..	26·41	Do. ..	
12 ..	3·33	Do. ..	
15 ..	3·22	Do. ..	
16 ..	3·25	Do. ..	

(c) Chengam—*cont.*

Survey number. (1)	Area in acres. (2)	Villages in which situated. (3)	Classification. (4)
7	2·89	Athipattu	
8	2·62	Do.	
11	24·77	Do.	Fields not assigned on patta.
2	3·80	Do.	
13	2·60	Do.	
14	3·58	Do.	
2	5·88	Periyamattam	
4	7·44	Do.	
5	4·59	Do.	
6	12·68	Do.	
10	19·92	Do.	
11	5·47	Do.	
13	29·75	Do.	Patta lands.
14	1·44	Do.	
16	1·54	Do.	
21	14·70	Do.	
22	12·40	Do.	
25	11·36	Do.	
26	18·66	Do.	
3	2·43	Do.	
8	6·30	Do.	
19	28·31	Do.	
23	3·46	Do.	
1	43·36	Do.	
7	5·67	Do.	
9	4·30	Do.	Fields not assigned on patta.
12	16·82	Do.	
20	17·23	Do.	
24	29·20	Do.	
27	10·30	Do.	
15	3·43	Do.	
17	2·22	Do.	
18	0·48	Do.	
7	4·34	Kilpattu	
8	28·14	Do.	
11	24·90	Do.	
14	16·72	Do.	
18	17·40	Do.	Patta lands.
19	12·10	Do.	
22	22·30	Do.	
24	10·89	Do.	
26	2·30	Do.	
27	47·68	Do.	
1	7·85	Kilpattu	
2	9·55	Do.	
3	28·95	Do.	
4	53·80	Do.	
5	13·90	Do.	
6	31·41	Do.	
10	10·00	Do.	
15	4·10	Do.	
23	18·70	Do.	
31	1·17	Do.	Fields not assigned on patta.
16	5·30	Do.	
17	2·98	Do.	
25	9·50	Do.	
28	5·92	Do.	
29	0·90	Do.	
30	1·88	Do.	
9	2·28	Do.	
12	5·34	Do.	
13	2·34	Do.	
20	3·70	Do.	
21	4·50	Do.	
2	19·20	Chinna Kilpattu.	
4	11·35	Do.	
8	3·91	Do.	
10	8·48	Do.	Patta lands.
12	20·40	Do.	
14	4·88	Do.	
16	2·52	Do.	
1	1·29	Do.	
7	11·75	Do.	
15	0·28	Do.	
17	3·90	Do.	
18	3·32	Do.	
20	4·45	Do.	
22	1·78	Do.	Fields not assigned on patta.
3	7·74	Do.	
9	17·71	Do.	
11	3·58	Do.	
5	2·60	Do.	
6	8·00	Do.	
13	1·28	Do.	
19	4·40	Do.	
21	0·38	Do.	
3	4·11	Melpattu	
4	10·85	Do.	
6	9·43	Do.	
11	16·48	Do.	
12	13·75	Do.	
13	25·10	Do.	
16	12·54	Do.	Patta lands.
17	12·20	Do.	
20	12·16	Do.	
22	12·96	Do.	
26	14·00	Do.	
8	2·40	Do.	
9	7·50	Do.	
18	0·54	Do.	
24	5·10	Do.	
25	9·25	Do.	
14	23·85	Do.	
15	1·23	Do.	
19	25·12	Do.	Fields not assigned on patta.
21	2·14	Do.	
23	12·81	Do.	
27	43·13	Do.	
1	2·80	Do.	
2	6·50	Do.	
5	0·68	Do.	
7	0·74	Do.	
10	2·90	Do.	

Survey number. (1)	Area in acres. (2)	Village in which situated. (3)	Classification. (4)
1	7·40	Vannankuttai	
4	36·90	Do.	
6-3	0·36	Do.	
4	0·30	Do.	
5	0·40	Do.	
8	1·43	Do.	Patta lands.
9-1	4·00	Do.	
9-2	13·30	Do.	
12	16·52	Do.	
13	15·80	Do.	
15	20·37	Do.	
2	6·58	Do.	
6-2	0·27	Do.	
5	10·10	Do.	
11	20·51	Do.	
6-1	3·56	Do.	
7	3·50	Do.	Fields not assigned on patta.
10	1·70	Do.	
14	1·32	Do.	
16	2·64	Do.	
2-2	23·81	Palamarathur	
3-1	3·90	Do.	
7-1	25·70	Do.	
10	8·25	Do.	
11	16·38	Do.	
13	9·34	Do.	
15	9·70	Do.	
17	4·58	Do.	
19	11·63	Do.	
21	0·41	Do.	
23	7·34	Do.	
25	30·90	Do.	
27-1	1·29	Do.	
2	0·47	Do.	
3	0·37	Do.	
4	0·13	Do.	
28	12·55	Do.	
29	13·84	Do.	
31	10·62	Do.	
33-1 A.	13·25	Do.	
33-1 C.	2·80	Do.	
33-2 A.	6·60	Do.	
33-2 C.	16·80	Do.	
36-1	8·90	Do.	
3	0·17	Do.	
37-1	1·39	Do.	
3	11·26	Do.	
40	10·54	Do.	
41-1	25·50	Do.	
2	14·10	Do.	
45	1·69	Do.	
49-1 A.	8·73	Do.	
49-1 C.	0·41	Do.	
49-2	0·59	Do.	
50-1	11·47	Do.	
2	14·37	Do.	
52	11·76	Do.	
67	16·53	Do.	
69	8·63	Do.	
72-1	0·20	Do.	
2	1·10	Do.	
73	14·65	Do.	
75	35·17	Do.	
79	9·89	Do.	
82	12·75	Do.	
83	8·84	Do.	
84	9·98	Do.	Patta lands.
85	16·48	Do.	
87	3·25	Do.	
89-1	8·96	Do.	
91-1	0·40	Do.	
2	0·21	Do.	
2	0·14	Do.	
3	0·38	Do.	
4	0·83	Do.	
5	0·32	Do.	
93	6·75	Do.	
98	22·37	Do.	
101	2·58	Do.	
102	8·22	Do.	
103	47·40	Do.	
104	4·23	Do.	
105	6·10	Do.	
108	1·59	Do.	
110	8·80	Do.	
111	21·00	Do.	
113	8·11	Do.	
115	20·60	Do.	
116	4·53	Do.	
117	26·51	Do.	
118	10·45	Do.	
119	24·40	Do.	
122	17·82	Do.	
123	12·90	Do.	
125	15·42	Do.	
128-1	6·61	Do.	
3	7·24	Do.	
130-1	5·20	Do.	
134	15·63	Do.	
137	19·50	Do.	
139	24·50	Do.	
141-1	0·14	Do.	
2	0·34	Do.	
143	12·66	Do.	
144-1	0·16	Do.	
2	0·13	Do.	
3	0·18	Do.	
151	16·97	Do.	
152	1·30	Do.	
154	17·95	Do.	
158	21·94	Do.	
159-2	15·19	Do.	
160	7·50	Do.	
161	23·33	Do.	
163	12·50	Do.	
169	8·66	Do.	

(*c*) Chengam—*cont.*

Survey number. (1)	Area in acres. (2)	Village in which situated. (3)	Classification. (4)
172	25·62	Palamarathur	
176	4·80	Do.	
178	5·40	Do.	
179	23·55	Do.	
181-1	13·38	Do.	
183-1	18·88	Do.	
186	0·27	Do.	
188	15·84	Do.	
190-1 A.	0·99	Do.	
190-1 C.	16·61	Do.	Patta lands.
191	8·10	Do.	
192-1	9·54	Do.	
3	0·74	Do.	
294	2·60	Do.	
295	15·20	Do.	
299	18·38	Do.	
301	3·45	Do.	
302	25·30	Do.	
303	6·15	Do.	
304	11·00	Do.	
305	1·52	Do.	
306	20·16	Do.	
4-1	22·71	Do.	
12	2·41	Do.	
18	10·36	Do.	
22	12·18	Do.	
30	3·50	Do.	
38	2·55	Do.	
39	1·83	Do.	
43	6·90	Do.	
55	0·58	Do.	
56	25·70	Do.	
59	3·66	Do.	
62	9·23	Do.	
63	13·74	Do.	
64	0·66	Do.	
76	9·10	Do.	
80	10·73	Do.	
81	11·48	Do.	
96	24·26	Do.	
97	10·46	Do.	
100	9·47	Do.	
106	11·25	Do.	
107	1·60	Do.	
109	14·50	Do.	
114	14·49	Do.	
131	14·95	Do.	
132	17·80	Do.	
133	21·23	Do.	
138	8·50	Do.	
142	17·20	Do.	
150	16·92	Do.	
156	16·63	Do.	
157	15·70	Do.	
162	35·27	Do.	
164	21·70	Do.	
165	28·44	Do.	
167	9·24	Do.	
173	6·80	Do.	
174	18·58	Do.	
184	0·43	Do.	
189-1	1·72	Do.	
3	7·23	Do.	
296	1·80	Do.	
298	1·91	Do.	
9	498·81	Do.	
24	366·20	Do.	
32	0·78	Do.	
51	3·50	Do.	Unassessed waste and poramboke.
57	2·94	Do.	
58	0·88	Do.	
68	12·63	Do.	
70	1·91	Do.	
74	6·20	Do.	
77	12·88	Do.	
78	11·47	Do.	
94	17·20	Do.	
95	16·54	Do.	
126	3·11	Do.	
127	37·90	Do.	
129	5·45	Do.	
155	3·48	Do.	
297	50·12	Do.	
1	3·88	Do.	
2-1	0·50	Do.	
3-2	0·22	Do.	
4-2	0·87	Do.	
5	1·96	Do.	
6	2·85	Do.	
7-2	0·18	Do.	
8	1·25	Do.	
14	1·43	Do.	
16	7·92	Do.	
20	0·77	Do.	
26	0·44	Do.	
33-1 B.	1·60	Do.	
32-2 B.	1·90	Do.	
34	1·77	Do.	
35	0·88	Do.	
36-2	0·66	Do.	
37-2	0·77	Do.	
4	0·80	Do.	
42	4·84	Do.	
44	2·80	Do.	
46	1·42	Do.	
47	3·80	Do.	
48	2·89	Do.	
49-1 B.	1·20	Do.	
53	1·76	Do.	
54	2·80	Do.	
60	1·20	Do.	
61	2·34	Do.	
65	1·98	Do.	
66	1·55	Do.	
71	1·80	Do.	

Survey number. (1)	Area in acres. (2)	Village in which situated. (3)	Classification. (4)
86	4·86	Palamarathur	
88	0·37	Do.	
90	2·65	Do.	
91-6	0·48	Do.	
7	0·25	Do.	
92	4·28	Do.	
99	0·59	Do.	
112	1·58	Do.	
120	0·66	Do.	
121	6·60	Do.	
124	3·30	Do.	
128-2	1·45	Do.	
130-2	2·40	Do.	
135	1·99	Do.	
136	5·24	Do.	
140	0·84	Do.	
145	0·90	Do.	
146	0·92	Do.	
147	3·12	Do.	
148	2·91	Do.	
149	2·16	Do.	
153	1·70	Do.	Unassessed waste and poramboke.
159-1	0·90	Do.	
166	4·34	Do.	
168	7·16	Do.	
170	1·60	Do.	
171	2·50	Do.	
175	1·47	Do.	
177	3·87	Do.	
180	1·49	Do.	
181-2	1·20	Do.	
3	0·22	Do.	
182	0·63	Do.	
183-2	0·72	Do.	
185	4·28	Do.	
187	1·73	Do.	
189-2	0·83	Do.	
190-1 B.	0·65	Do.	
190-1 D	0·10	Do.	
190-2	1·35	Do.	
192-2	0·53	Do.	
300	0·66	Do.	
195	18·29	Mel Selambadi	
197	8·30	Do.	
199	7·87	Do.	
202	46·29	Do.	
204	8·72	Do.	
206	2·35	Do.	
207	9·15	Do.	
208	21·56	Do.	
210	9·46	Do.	
219	3·51	Do.	
213-2	1·80	Do.	
3	0·54	Do.	
214	28·84	Do.	
215	12·15	Do.	
216	7·15	Do.	
224	29·65	Do.	
229	3·50	Do.	
230	2·10	Do.	
231	2·36	Do.	
235	11·56	Do.	
236	9·42	Do.	
238	14·66	Do.	
243	53·90	Do.	
247	2·93	Do.	
248	9·94	Do.	Patta lands.
249	12·26	Do.	
250	41·90	Do.	
252	7·70	Do.	
254	9·69	Do.	
256	18·46	Do.	
259-1	1·90	Do.	
2	3·35	Do.	
261	44·42	Do.	
263	11·35	Do.	
264	2·53	Do.	
265	12·78	Do.	
266	5·29	Do.	
268	21·30	Do.	
271-1	2·79	Do.	
2	0·12	Do.	
273	10·56	Do.	
278	16·56	Do.	
285	18·40	Do.	
290	1·36	Do.	
291	2·12	Do.	
292	19·52	Do.	
193	123·63	Do.	
194	1·35	Do.	
196	5·72	Do.	
201	4·20	Do.	
203	17·60	Do.	
205	18·95	Do.	
211	18·98	Do.	
218	8·62	Do.	
220	16·50	Do.	
221	3·29	Do.	
222	28·55	Do.	
226	3·66	Do.	
228	0·98	Do.	
232-1	0·46	Do.	Unassessed waste and poramboke.
2	0·36	Do.	
3	0·13	Do.	
4	0·20	Do.	
5	0·31	Do.	
6	0·45	Do.	
239	2·23	Do.	
241	1348·70	Do.	
242	83·65	Do.	
251	13·21	Do.	
253	220·34	Do.	
262	0·97	Do.	
270	5·10	Do.	
275	3·80	Do.	

(*c*) Chengam—*cont.*

Survey number.	Area in acres.	Village in which situated.	Classification.
(1)	(2)	(3)	(4)
277 ..	3·59	Mel Selambadi ..	
282 ..	17·49	Do. ..	
283 ..	7·68	Do. ..	
284 ..	14·25	Do. ..	
286 ..	3·70	Do. ..	
288 ..	4·41	Do. ..	
289 ..	0·66	Do. ..	
293 ..	8·12	Do. ..	
217 ..	19·71	Do. ..	
274 ..	10·68	Do. ..	Unassessed waste and poramboke.
198 ..	14·68	Do. ..	
200 ..	22·67	Do. ..	
209 ..	3·48	Do. ..	
212 ..	1·30	Do. ..	
213-1 ..	0·24	Do. ..	
223 ..	1·15	Do. ..	
225 ..	2·41	Do. ..	
227 ..	1·97	Do. ..	
233 ..	1·16	Do. ..	
234 ..	1·45	Mel Selambadi ..	
237 ..	3·97	Do. ..	
240 ..	20·25	Do. ..	
244 ..	3·30	Do. ..	
245 ..	2·10	Do. ..	
246 ..	5·29	Do. ..	
255 ..	1·84	Do. ..	
257 ..	1·96	Do. ..	Unassessed waste and poramboke.
258 ..	0·31	Do. ..	
260 ..	2·70	Do. ..	
267 ..	0·67	Do. ..	
269 ..	3·56	Do. ..	
272 ..	0·98	Do. ..	
276 ..	12·83	Do. ..	
280 ..	2·20	Do. ..	
281 ..	2·00	Do. ..	
287 ..	2·78	Do. ..	

NOTE.—The above statement is correct up to 15th November 1936.

APPENDIX VII.

STANDING ORDERS FOR THE DETECTION AND CONTROL OF SPIKE DISEASE OF SANDAL.

1. These standing orders are framed to secure the early detection and identification of the spike disease of sandal with a view to control and if possible eradicate the disease.

2. *Description of the disease.*—The new shoots instead of presenting the graceful appearance natural to the species grow out stiff and straight. The leaves also stand up stiff and erect like bristles and as their arrangement (contrary to that on a healthy shoot) is decussate, the shoot looks like a spike with four lines of erect leaves growing down it—something like a lamp chimney brush.

There is no discernible change in the new axis except that it grows out stiff and straight. As regards the leaves, firstly the distance between alternate pairs is greatly decreased ; secondly the petiole and blade are from base to tip in one straight line instead of being curved ; thirdly the blade is shorter, narrower and more pointed.

There is no sign of spot or sickness in the leaf substance.

As the disease progresses, the new leaves become still smaller, narrower, more pointed and fewer each successive year until the new shoots present the appearance of a fine spike bearing four rows of small bristles. After this the tree rapidly dies. Diseased twigs never bear flowers or fruits whereas unspiked parts of the tree flower and fruit profusely. No natural recovery has been known so far.

3. As the above description is rather elaborate the following important points may be emphasized for the use of forest guards and foresters for distinguishing a spiked tree :—

(i) Non-flowering of the spiked twig.
(ii) Bunch or tuft appearance at the end of the shoots.
(iii) Leaf measurements.

If the length of the leaf minus the length of the petiole divided by the breadth of the leaf-blades is greater than 3, it is a strong indication that there is something unnatural about the plant.

4. As a further aid to the identification of spike, samples of specimens preserved in Formalin, as well as pressed specimens can be supplied to any District Forest Officer in whose division sandal occurs, if he will apply for them.

5. Units of control should be formed and they may be either a whole reserve or a beat whichever is smaller.

6. Beat guards, foresters and range officers of every range in which sandal is found should make themselves acquainted with the disease by study of the description given above and of the spiked samples which will be sent on application to the Provincial Silviculturist. Whenever spike breaks out in any area or if any isolated areas are found spiked in any district facilities should be given to the subordinates in the whole division to visit the area and make themselves familiar with the nature of the disease.

7. The beat guard should be required to perambulate every part of the sandal area in his charge at least once every two months, mark any tree found spiked or suspected to be spiked and submit a report to the Range officer with a rough sketch of the locality in which such trees are noticed. The report should be submitted within 48 hours of seeing the area.

8. On receipt of such a report the Range Officer should immediately inspect the trees and if he is satisfied that they are spiked he should submit a report to the District Forest Officer. If he himself is unable to decide he should send samples with his report to the District Forest Officer.

9. The District Forest Officer should take the earliest opportunity to inspect the locality and issue orders for the control of the disease. A copy of his report with an accurate sketch should be sent to the Provincial Silviculturist for posting his control map.

10. At the same time the District Forest Officer should forward an application on behalf of the subordinates who discovered the outbreak, for suitable reward.

11. Paragraphs 7, 8 and 9 above do not apply to control units already known to be infected, but it must be remembered that such infected control units need frequent inspection in order to watch for and deal with any further spread of the disease.

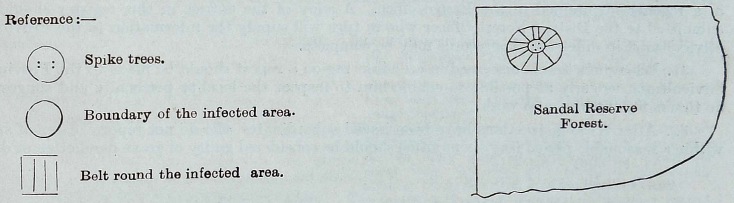
12. In the case of uninfected sandal areas the Range Officer-in-charge should report to the District Forest Officer once a year on the 1st April stating that as a result of inspections by himself and his subordinates such and such areas are free from spike and requesting that the standing orders may be made applicable to them for another year. (This would prevent the application of the standing orders being lost sight of in the case of spike-free areas after a long period of years.)

13. Forest subordinates, forest guards, forest watchers, and hill men who detect and report a newly infected area will be eligible for consideration for a reward. This reward will be sanctioned by the territorial Conservator concerned on the recommendation of the Provincial Silviculturist, sent through the Conservator of Forests, Working Plans Circle.

14. A locality is considered to be newly infected when it is found at a distance of one mile or more (as the crow flies) from an existing spiked area.

15. The reward will vary from Rs. 10 to Rs. 25 depending on the nature of the infection. For example a subordinate who finds a solitary spiked tree will be entitled to a larger reward than one who finds a dozen or more trees ; so also in the case of a very distant attack as when a case is reported in a place 50 to 100 miles away from any infected area.

16. As soon as it is decided that the reported trees are spiked the affected area should be roughly marked on the ground and on a sketch. Around this area a belt varying from 100 feet to 2 furlongs in width will be demarcated on the ground by a cleared line 10 feet wide as shown in the attached sketch and treated as detailed below. The width of the belt round the infected area depends on the amount of infection (e.g., in an area in North Salem division where a solitary spiked tree was found in May 1934, a belt of 100 feet all round was found to be ample and there has been no recrudescence of the disease after treatment. In another area in Vellore West division where about 600 trees were found spiked in August 1935 and where the disease is virulent and spreading fast, a belt of two furlongs in the direction of the spread and one furlong in other directions has been considered sufficient).



17. The method of control is to destroy all obviously spiked trees *and also all trees in which the disease is latent* as these are believed to be carriers of infection.

18. Therefore all definitely spiked trees should be uprooted with *all* their roots ; or preferably killed outright by the application of an arsenic poison as when uprooting generally small roots are left which throw up root suckers.

This poisoning is done by girdling the tree about 1 foot from the ground *down to the cambium*, the girdle being about 9 inches wide, and painting the girdled portion with the poison. The treatment is only fully effective if the girdle does not go deeper than the cambium. The arsenic solution for this purpose (Atlas substitute No. 4) can be obtained through the Forest Research Ranger, Denkanikota, at a cost of Rs. 4 per gallon plus freight or Atlas solution may be used but this is more expensive. Atlas solution can be obtained from Messrs. Macbeth Brothers and Company, Limited, Bombay, at a cost of Rs. 35 per 5 gallons drum f.o.r. Bombay.

Subordinates must be warned to take great care in using the poison and to wash their hands properly after using it.

19. The poison must be kept under lock and key in the personal charge of an officer not lower in rank than a ranger.

20. The ranger in charge must only issue as much poison as he estimates will be used during the day's work. In exceptional cases poison may be issued by a reliable forester previously authorized to do so by the District Forest Officer.

Unused poison if any must not be poured into a stream or tank but returned to the issuing officer at the end of the day.

21. The work must be done under the supervision of a reliable and intelligent subordinate.

22. The officer actually in charge of the operations must each day warn the coolies of the dangerous nature of the poison and the risk involved in handling it when he musters them for work. He should also record a certificate to the effect that he did so, witnessed by a maistri, or some suitable person.

23. The subordinate in charge must be held responsible for (1) personally returning all unused poison at the end of the day, (2) seeing that all coolies and subordinates who have been in contact with the poison wash their hands properly before taking food or drink and also at the conclusion of the day's work.

24. The poison must on no account be kept or carried in receptacles such as bottles or pots which are ordinarily used to hold food or drink. It must be kept in red painted tins marked 'POISON', all empty tins should be returned to the ranger in charge without delay. The subordinate in charge must be held responsible for the loss, if any, of tins given to him to keep the poison in.

25. Poison must not be kept in living quarters in anticipation of possible further requirements. As soon as the work is completed all poisons must be returned to the ranger's stores.

26. Poison can be absorbed through the unbroken skin giving rise in time to arsenic poisoning. The job of poisoner should therefore be changed frequently and all concerned warned to avoid coming into contact with the liquid as much as possible.

27. This work is best done by using the minimum staff possible.

28. All other sandal trees in the affected area or in the demarcated belt whether sickly or healthy should be lopped, numbered and listed. In lopping only branches of 2 inches girth or less should be removed but such lopping should be complete. Experience shows that lopping causes such of these trees which have the disease latent in them to show the disease within a few weeks.

29. The lopped trees should be inspected in accordance with the list at least once a fortnight by a responsible officer (preferably the Range Officer himself) and all trees that show the disease should be dealt with in accordance with the prescriptions given above.

Note.—The above prescriptions are based on tentative conclusions drawn from the experiments carried out so far in North Salem division, a heavily infected area. The possibility of complete eradication of the disease by such operations has yet to be verified.

30. A careful account of the extent of the locality dealt with, the trees originally spiked, the trees lopped and the trees that manifested the disease subsequent to lopping should be recorded in a register maintained in the Range office. A copy of the entries in this register should be submitted to the District Forest Officer who in turn will supply the information to the Provincial Silviculturist in order that his records may be complete.

31. When infection is discerned in a distant region a report should be made to the Provincial Silviculturist as early as possible to enable him to inspect the locality personally and suggest, if he thinks fit, experimental work.

32. After these instructions have been issued subordinates who do not report cases of spike within a reasonable period (say six months) should be considered guilty of grave dereliction of duty.

APPENDIX VIII.

Descriptions of Bamboo Coupes.

Serial number and felling series.	Coupe. Number.	Area.	Description (to be read with the Bamboo Working Map and corresponding sheets of the 2-inch Survey of India Map.)
		ACS.	
			Alangayam Range.
1 Mangalam	I	1,540	The north-western portion of Mangalam reserve to the west of the Mangalam-Vallipattu footpath.
	II	1,830	The north-eastern portion of Mangalam reserve between the Mangalam-Vallipattu and Mangalam-Reddiyur footpaths.
	III	2,710	The central and southern portions of Mangalam reserve to the south of the Mangalam-Reddiyur footpath.
2 Nagaluthu	I	1,978	The northern portion of Jalarpet reserve south of the Attanavur-Chinnaponneri footpath, and the northern portions of the Nagaluthu reserve and its extension north of the Kottur-Yelagiri footpath.
	II	2,253	The southern portion of Nagaluthu reserve south of the Kottur-Yelagiri footpath.
	III (in two bits).	2,550	The two bits of Mangalam extension reserve.
3 Yelagiri	I	1,702	The Yelagiri unreserves north of the Jalarpet-Attanavur-Kilkaniyur footpath and of a straight line joining Kilkaniyur and Kaniyur; and west of the Kaniyur-Mangalam-Vallipattu path.

Serial number and felling series.	Coupe. Number.	Area. ACS.	Description (to be read with the Bamboo Working Map and corresponding sheets of the 2-inch Survey of India Map.)
			Alangayam Range—cont.
3 Yelagiri—*cont.*	II	1,478	The Yelagiri unreserves south of the Jalarpet-Attanavur-Kilkaniyur footpath and of a straight line joining Kilkaniyur and Kaniyur; and west of the Mangalam-Nelanur path as far as the northern boundary of Mangalam extension reserve.
	III	1,395	The Yelagiri unreserves east of the Vallipattu-Mangalam-Nelanur path as far as the northern boundary of Mangalam extension reserve.
4 Alangayam	I	5,190	The north-western extremity of Alangayam reserve north of the ridge running generally north-north-east from point 2083, through Kambatti Malai and point 2664, down to the intersection of the Kallaparai-Alangayam footpath and the northern boundary of Alangayam reserve.
	II	3,300	The northern, central, portion of Alangayam reserve south-east of the ridge running generally north-north-east from point 2083, through Kambatti Malai and point 2664, down to the intersection of the Kallaparai-Alangayam footpath with the northern boundary of Alangayam reserve; and north of the Alangayam Mandarkuttai cart-track and the footpath leading from point 2320 on it to Sattapanam.
	III	3,100	The southern and south-eastern portions of Alangayam reserve south of the Alangayam-Mandarkuttai cart-track and the footpath leading from point 2320 on it to Sattapanam.
5 Mandarkuttai	I	945	The northern portion of Inner Javadis reserve north of the Gillman road; and south of the stream flowing east midway between this road and the Mandarkuttai-Melarasampattu footpath.
	II	990	The northern extremity of Inner Javadis reserve north of the stream flowing east midway between the Gillman road and the Mandarkuttai-Melarasampattu footpath; and south and east of the same footpath.
	III	1,427	The northern extremity of Inner Javadis reserve west of the Mandarkuttai-Melarasampattu footpath.
6 Pungulam	I	3,405	The southern portion of Pungulam reserve south of the Andiappanur-Kavalur road; and the central portion of Inner Javadis reserve west of the Garagamandi Ar (flowing southwards into the Cheyyar river) and north of the Alangayam-Tiruppattur range boundary.
	II	3,552	The northern and western portions of Pungulam reserve west of the Nayakkanur Jaghir lands and of the ridge running approximately north and south from the south-west corner of the Jaghir lands as far as the Andiappanur-Kavalur road.
	III	4,480	The central and eastern portions of Pungulam reserve immediately south of the Nayakkanur Jaghir lands and east of the ridge running approximately north and south from the south-west corner of the Jaghir lands as far as the Andiappanur-Kavalur road; and the central portion of Inner Javadis reserve between the Garagamandi Ar (flowing southwards into the Cheyyar river) and the Vasantapuram Bandirevu footpath.
7 Nayakkanur	I	1,466	The central portion of Inner Javadis reserve between the Vasantapuram-Bandirevu and Nayakkanur-Nagamarathur Patrai footpaths.
	II	1,760	The central portion of Inner Javadis reserve between the Nayakkanur-Nagamarathur Patrai and the Nayakkanur-Valukamparai footpaths.
	III	1,203	The northern portion of Inner Javadis reserve between the Nayakkanur- Valukamparai footpath and the Gillman road.
			Tiruppattur Range.
1 Andiappanur	I	2,330	The eastern portion of Andiappanur reserve east of the ridge running north-east and south-west across the reserve through Domachi Guddai peak.
	II	3,970	The northern and central portions of Andiappanur reserve west of the ridge running north-east and south-west across the reserve through Domachi Guddai peak and north of the following line :— The Kurichchilapattu (North)-Kodagumalai footpath as far as the eastern boundary of Kodagumalai enclosure, thence south-south-west along the Padinadu Malai ridge as far as point 2900, thence east-south-east in a straight line towards Chinnavattanur village as far as the reserve boundary.

Serial number and felling series.	Coupe. Number.	Coupe. Area.	Description (to be read with the Bamboo Working Map and corresponding sheets of the 2-inch Survey of India Map.)
		ACS.	
			Tiruppattur Range—cont.
1 Andiappanur—*cont.* ..	III	3,270	The southern portion of Andiappanur reserve south of the following line :— The Kurichchilapattu (North)-Kodagumalai footpath as far as the eastern boundary of Kodagumalai enclosure, thence south-south-west along the Padinadu Malai ridge as far as point 2900, thence east-south-east in a straight line towards Chinnavattanur village as far as reserve boundary.
2 Kambugudi	I	2,144	The north-eastern extremity of Kambugudi unreserves north of the Kelaiyur-Andiappanur footpath; and the central portion of Inner Javadis reserve south of the Alangayam-Tiruppattur range boundary and west of the Santhalmarathur Ar.
	II	3,757	The central portions of Kambugudi unreserves and the Inner Javadis reserve between the Kelaiyur-Andiappanur footpath and the Thagarakuppam-Rajapaliayam bridle path, and to the west of the Durga Malai ridge.
	III	3,968	The southern portion of Kambugudi unreserves south of the Thagarakuppam-Rajapaliayam bridle path; and the central western projection of Inner Javadis reserve west of a line running along Durga Malai ridge as far as the Kal Ar. and thence southwards to and along the north-western boundary of Nadukuppam enclosure.
3 Thagarakuppam ..	I	2,835	The central portion of Inner Javadis reserve east of the north-western boundary of Nadukuppam enclosure and the line joining it with the point where the Durga Malai ridge meets the Kal Ar, and between the Kal Ar and the Nadukuppam-Turinjikuppam footpath.
	II	2,304	The central portion of Inner Javadis reserve between the Kal Ar and the Palaiyapalaiyam-Kelaiyur footpath, and west of the Durga Malai ridge.
	III	1,632	The central portion of Inner Javadis reserve between the Palaiyapalaiyam-Kelaiyur footpath and the Alangayam-Tiruppattur range boundary, and east of the Santhalmarathur Ar.
4 Mambakkam	I	4,948	The northern portion of Mambakkam reserve north of the Pudur-Jamnapudur bridle path.
	II	3,201	Mambakkam extention reserve; and the portion of Mambakkam reserve south of the Pudur-Jamnapudur bridle path, and north of a line following the Mambakkam-Puliyur bridle path eastwards for about two miles and then turning southwards to the reserve boundary.
	III	2,670	The southern portion of Mambakkam reserve south of a line following the Mambakkam-Puliyur bridle path eastwards for about two miles and then turning southwards to the reserve boundary.
5 Puliyur unreserve ..	I	3,923	The southern portion of Puliyur unreserve between the Mambakkam-Melpattu-Nellivasal and the Mambakkam-Puliyur-Velaiyampattu paths.
	II	4,377	The central portion of Puliyur unreserve north of the Mambakkam-Puliyur-Velaiyampattu path, and south of the Mambakkam extension reserve and a line joining the south-east corner of this reserve with Aramalampattu, and thence running south-south-east for about 1¼ miles and east-south-east to Kombai and thence along the Kombai-Tandapattu footpath.
	III	3,584	The northern portion of Puliyur unreserve north of Mambakkam extension reserve and a line joining the south-east corner of this reserve with Aramalampattu, and thence running south-south-east for about 1¼ miles and east-south-east to Kombai and thence along the Kombai-Tandapattu footpath.
6 Nadukuppam	I	2,560	The central portion of Inner Javadis reserve; and the northern portion of Chinnasamudram reserve between the Puliyur-Valiyampattu and the Kombai-Paramanandal footpaths.
	II	2,515	The central portion of Inner Javadis reserve; and the extreme northern corner of Chinnasamudram reserve between the Kombai-Paramanandal and Nadukuppam-Kuppanattam footpaths.
	III	1,939	The central portion of Inner Javadis reserve between the Nadukuppam-Kuppanattam and Nadukuppam-Turinjikuppam footpaths
7 Singarapettai	I	1,447	The north-western portion of Singarapettai extension reserve north of the Nellivasal-Sanichikottai footpath; and the lower western slope (of chamberi Malai—point 3855) situated in the north-eastern portion of Govindapuram reserve.

Serial number and felling series.	Coupe. Number.	Area. ACS.	Description (to be read with the Bamboo Working Map and corresponding sheets of the 2-inch Survey of India Map.)
			Tiruppattur Range—cont.
7 Singarapettai—*cont.* ..	II	2,144	The south-western portion of Singarapettai extension reserve south of the Nellivasal-Sanchikottai footpath and west of the spur running south-south-west from point 3336; and the southern portion of the Nellivasal enclosure south of the same footpath.
	III	1,779	The western portion of Nellivasal enclosure west of the Nellivasal-Melpattu footpath and between the Nellivasal-Sanichikottai and the Melpattu-Mambakkam foot and bridle paths.
8 Puliyanur	I	1,530	The north-eastern portion of Singarapettai-extension reserve between the bridle and footpaths running in a south-westerly direction from Malayandapattu and Nellivasal, respectively, to the cart-stand on the Puliyanur Ar.
	II	1,860	The eastern stretch of Singarapettai extension reserve east of the Malayandapattu-Puliyanur bridle path and cart-track.
	III	1,560	The central portion of Singarapettai extension reserve west of the Nellivasal-Puliyanur footpath and cart-track and east of the spur running south-south-west from point 3336.
9 Malaitiruppattur ..	I	1,402	The southern portion of Inner Javadis reserve confined to the upper eastern slopes of the ridge (running south-west from Thotiala-Point 2643) which forms the common boundary between the Inner Javadis and Singarapettai extension reserves; and a narrow belt of about 20 chains width south of the Adivaram-Malayandipatti footpath.
	II	1,760	The southern portion of Inner Javadis reserve between the Malayandapattu-Adivaram and Malaitiruppattur-Chinnasamudram footpaths.
	III	1,491	The southern portion of Inner Javadis reserve between the Malaitiruppattur-Chinnasamudram and Kombai-Paramanandal foot paths.
			Chengam Range.
1 Palamarathur	I	1,178	The southern portion of Palamarathur reserve south of the Velichanur-Nayakkanur footpath and the small stream flowing from it into the Marjonai Ar.
	II	1,843	The central portion of Palamarathur reserve north of the Velichanur-Nayakkanur footpath and the small stream flowing from it into the Marjonai Ar, and south of the Palamarathur-Nayakkanur footpath and the larger stream flowing south-west from it into the Marjonai Ar.
	III	2,054	The northern portion of Palamarathur reserve north of the Palamarathur-Nayakkanur footpath and the larger stream flowing south-west from it to the Marjonai Ar.
2 Palamarathur unreserves.	I	1,805	The northern and eastern portions of Palamarathur unreserve north of the footpath running through the enclosure approximately north and south through Palamarathur.
	II	1,600	The central portion of Palamarathur unreserve south of the footpath running through the enclosure approximately north and south through Palamarathur, and north of the narrowest part of the unreserves (marked by a stream) about half mile south-east of Kutathur rest-house.
	III	2,253	The southern portion of Palamarathur unreserve, excluding the Padapanjamarathur enclosure, south of the narrowest part (marked by a stream) about half mile south-east of Kutathur rest-house.
3 Nallapattu North ..	I	913	The north-eastern portion of Nallapattu reserve north of the stream flowing north-west and south-west from Pulichakuttai, as far as the Chinnavavvakuttai-Valakad footpath, and east of the same footpath.
	II	845	The north-western portion of Nallapattu reserve west of the Chinnavavvakuttai-Valakad footpath, and north of the stream flowing south-west from it towards Kutathur.
	III	762	The central portion of Nallapattu reserve south of the stream flowing north-west and south-west from Pulichakuttai towards Kutathur, and north of the Valakad-Attiyanur footpath.
Nallapattu South ..	I	717	The central portion of Nallapattu reserve south of the Valakad-Attiyanur footpath, and north of a straight line running south-east along the Valakad-Paderi footpath and meeting the reserve boundary about 15 chains south-east of the point where the path turns south-west towards Paderi.

Serial number and felling series.	Coupe. Number.	Area.	Description (to be read with the Bamboo Working Map and corresponding sheets of the 2-inch Survey of India Map.)
		ACS.	
			Chengam Range—cont.
4 Nallapattu South—*cont*	II	610	The southern portion of Nallapattu reserve south of a straight line running south-east along the Valakad-Paderi footpath and meeting the reserve boundary about 15 chains south-east of the point where the path turns south-west towards Paderi, and north of the Vilamarathu-Palavadi foot-path.
	III	1,075	The southern portion of Nallapattu reserve south of the Vilamarathur-Palavadi footpath.
5 Bandirevu	I	1,568	The north-western extremity of Tenmalai reserve north of the Padapanjamarathur enclosure and the stream (Madalamadurai Ar) flowing from its north-western corner to the Cheyyar river.
	II	2,310	The Padapanjamarathur enclosure, and the western portion of Tenmalai reserve south of the stream (Madalamadurai Ar) flowing from the north-west corner of the enclosure to the Cheyyar river; west of the spur rising southwards from the north-east corner of the enclosure up to point 3326; and north of a line running east to west from point 3326 along a stream, which it cuts, down to the Cheyyar river.
	III	1,357	The western portion of Tenmalai reserve south of the stream due west of point 3326 and a line running west to east from the stream to point 3326; west of the ridge running through points 3326, 3300 down to the south-west corner of Puliyur enclosure; and north of the Pambar Ar.
6 Kallatur	I	1,165	The western portion of Tenmalai reserve south of the Pambar Ar up to the point where it meets the north-eastern boundary of the Erukkampattu enclosure; and north of the line running westwards along the Erukkampattu-Kelaiyur footpath as far as the southern branch of the Pambar and thence south-wards through points 3537 and westwards along the Kudumichchet ridge down to Maladikollai on the western boundary of the reserve.
	II	1,370	The western portion of Tenmalai reserve south of the Kudumichchet ridge and the spur running west-wards from it down to Maladikollai; east of a line following the crest of the spur running south-east from point 3537 and meeting the Perunattam enclosure where it is intersected by the Kal Ar; and north of the Kal Ar.
	III	1,600	The western portion of Tenmalai reserve south of the Kal Ar; west of a line joining points 2465, 3258 (Kodikal) and 3348; and north of the stream flowing westwards from point 3348 into the Cheyyar river.
7 Tenmalai Central ..	I	2,809	The southern central portion of Tenmalai reserve south of and excluding Perumattam enclosure down to the line joining points 3348 and 2928; and bet-ween the Karai Ar on the east and the line joining points 2465, 3258 and 3348 on the west.
	II	1,444	The central portion of Tenmalai reserve south of Erukkampattu-Kelaiyur and the Erukkampattu-Attipattu footpaths, excluding the Erukkampattu enclosure; west of the Attipattu enclosure and the ridge running approximately south-west from the south-west corner of the enclosure; north of and including the Perumattam enclosure; and east of a line joining the point, where the Kal Ar meets the Perumattam enclosure boundary, with point 3537 and running northward from point 3537 to the Erukkampattu-Kelaiyur footpath.
	III	2,624	The northern central portion of Tenmalai reserve west of the Vilamarathur-Puliyur-Nellivoi footpath, including the Puliyur enclosure, up to the point where the footpath turns eastwards; north of the Attipattu-Erukkampattu footpath and the southern tributary of the Pambar, including the Erukkampattu enclosure; and east of the ridge running southwards from the south-west corner of Padapanjamarathur enclosure through points 3326, 3300 and 3360.
8 Tenmalai East	I	1,662	The north-eastern portion of Tenmalai reserve between the Vilamarathur-Puliyur-Nellivoi and the Paderi-Meltattiyapattu-Nellivoi footpaths, excluding the portions of the Puliyur and Meltattiyapattu enclo sures lying between these paths.

Serial number and felling series.	Coupe. Number.	Area.	Description (to be read with the Bamboo Working Map and corresponding sheets of the 2-inch Survey of India Map.)
		ACS.	
	Chengam Range—cont.		
8 Tenmalai East—*cont.*	II	2,534	The south-eastern portion of Tenmalai reserve east and south of the Paderi-Meltattiyapattu-Nellivoi-Puliyur footpath to a point where the path turns northwards, including the Attipattu and Meltattiyapattu enclosures; and north of the Attipattu-Viranandal footpath down to the limit of bamboo growth.
	III	1,766	The south-eastern portion of Tenmalai reserve south of the Attipattu enclosure and the Attipattu-Viranandal footpath down to the limit of bamboo growth; and east of a line following the ridge running approximately south-west from the south-western corner of the Attipattu enclosure and the Karai Ar down to the limit of bamboo growth.
9 Kuppanattam	I	730	The southern portion of Tenmalai reserve west of the Melpattu-Paramanandal bridle-path; south of the stream west of point 3348, up to point 3348; and north of the Perumalmalai-Kuppanattam footpath.
	II	825	The southern portion of Tenmalai reserve north of Paramandal reserve and the ridge passing through points 1877, 3505 and 3525; and south of the Kuppanattam- Perumalmalai footpath, as far as its intersection with the Melpattu-Paramanandal bridle path, and the straight line from the point of intersection to point 3525.
	III	633	The southern portion of Tenmalai reserve south of the straight line joining points 3348 and 2928 up to the edge of the plateau and the line joining points 3525 with the intersection of the Perumalmalai-Kuppanattam footpath and the Melpattu-Paramanandal bridle-path; and east of the Melpattu-Paramanandal bridle-path.

APPENDIX IX.

Press Communiqué.

Fort St. George, 26*th January* 1938
(*G.O. Ms. No.* 227, *Development*).

[Cutting and removal of grass from reserved forests under the control of the Forest Department.]

The present policy of Government in regard to this matter is perhaps not generally known to the public. Cutting and removal of grass in headloads are permitted from the reserved forests except in areas which are closed for silvicultural reasons or for abuse of the concession. No removal will also be permissible from coupes under felling, in young plantations, in sandalwood propagation centres and such other areas which may be closed by the District Forest Officer for special reasons. The removal of grass in cartloads is not ordinarily permitted. Even this is however permitted in a few forest divisions subject to the payment of prescribed fee. Where it is the practice to lease grass, the lessee will be required to agree to free removal by the public in headloads. The concession and the closed areas are notified by the District Forest Officer annually in the District Gazette.

The removal of grass will be subject to the following conditions :—

(i) The removal of grass shall be allowed free only in headloads and for bonafide domestic use and not for sale. Removal in cartloads may be made only from areas inwhich it is specially allowed. Such removal shall be subject to the payment of the prescribed fee. No removal shall be made from areas closed to grass cutting.

(ii) Removals may be made throughout the year but they shall not be made before dawn or after dusk. No permits will be required.

(iii) Only long grass shall be cut; it shall not be uprooted. Only sickles shall be used. Billhooks and felling axes shall not be carried.

(iv) No forest produce shall be cut to stiffen or to tie the bundles.

(v) Removals shall be made only through recognized footpaths or roads which will be notified in the District Gazette.

(vi) The grass shall not be set fire to either wilfully or negligently and no combustible material shall be taken into the forest; and if fire breaks out the grass-cutters shall make every endeavour to extinguish it.

(vii) The concession is liable to be terminated for serious breach of any of the conditions mentioned above or in the event of the occurrence of any serious fire, under the orders of the District Forest Officer, who shall report the fact to the Collector for approval within ten days.

C. J. PAUL,
Secretary to Government.

APPENDIX X.

Fort St. George, 25th March 1938

(*G.O. Ms. No.* 778, *Development*).

The removal of silt from tanks and manure from pens in reserved forests is at present prohibited. With a view to increasing the supply of manure available to villages bordering on reserved forests, it has been suggested that the removal of silt and manure should be permitted, such removals being regulated by the issue of permits. The Government consider that the manure which is lying uncleared in many of the pens in reserved forests could with advantage be transported to the nearest village and would be a valuable addition to the farm resources of the villagers. They have therefore decided to permit in reserved forests the removal of silt from tank beds and manure from pens on payment of a fee of As. 2 and As. 4 per cartload of such silt and manure respectively.

APPENDIX XI.

CONTROL FORMS.

(*a*) Form VIII, Control of Fellings, Sandal Working Circle.
(*b*) ,, VIII (*a*), Record of yield, Sandal Working Circle.
(*c*) ,, IX, Felling Series Journal, Sandal Working Circle.
(*d*) ,, XI, Control of Fellings, Fuel and Small Timber Working Circle.
(*e*) ,, XI (*a*), Record of yield, Fuel and Small Timber Working Circle.
(*f*) ,, XII, Control of Rab/regeneration, Fuel and Small Timber Working Circle.
(*g*) ,, XIII, Control of Fellings, Bamboo Working Circle.
(*h*) ,, XIII (*a*), Record of yield, Bamboo Working Circle.
(*i*) ,, XIV, Control of working, Minor Forest Produce Working Circle.
(*j*) ,, XIV (*a*), Record of yield, Minor Forest Produce Working Circle.
(*k*) ,, XVI, Control of grazing, Grazing Working Circle.
(*l*) Record of Works, the Whole Working Plan area.
(*m*) Control Journal, the Whole Working Plan area.
(*n*) Deviation Statement, the Whole Working Plan area.

APPENDIX XI (*a*).

FORM VIII.

Control of Fellings in the Sandal Working Circle.

Pelamarathur Felling Series of the Chengam Range.

Prescribed.—Extraction of dead trees, including all stumps and roots, and green fallen or broken stems and branches (Working Plan, paragraph 226), once in six years in each coupe of 8 Javadi felling series and once in three years in 2 Yelagiri felling series [Working Plan, paragraph 216 (*a*)], annually in villages. [Working Plan, paragraph 216 (*b*).]

Prescribed.			Done.	
Year. (1)	Area acres. (2)	Coupe number. (3)	Year (s) of actual working. (4)	Remarks. (5)
1937-38	2,014	IV	1937-38	
1938-39	650	V	1938-39	
1939-40	1,410	VI	1940-41	Coupe VI not worked in 1939-40 as extraction was confined to trees blown over and uprooted throughout the series in the May 1939 cyclone.
1940-41	1,904	I		
1941-42	1,429	II		
1942-43	1,136	III		
1943-44	2,014	IV		
1944-45	650	V		
1945-46	1,410	VI		
1946-47	1,904	I		

Note.—A separate form will be used for each felling series or for the enclosures or villages of each range.

APPENDIX XI (*b*).

FORM VIII (*a*).

Record of yield from the Sandal Working Circle.

Estimated outturn.—62 tons annually (Working Plan, paragraph 223).

Year. (1)	Locality worked. Felling series or villages. (2)	Coupe number or number of villages. (3)	Area acres. (4)	Outturn. (5) Tons.	Cwt.	Qr.	lb.	Remarks. (6)
1937-38	Athanavoor	II	488					
	Kottur	II	1,678					
	Pelamarathur	IV	2,014					
	Melpattu	IV	1,155					
	Nellivoi	IV	754					
	Vasantapuram	IV	1,795					
	Kambugudy	IV	538					
	Mambakkam	IV	580					
	Pudur	IV	1,073					
	Puliyanur	IV	4,670					
	Villages of the Alangayam range	11	710					
	Villages of the Tiruppattur range	32	9,426					
	Villages of the Chengam range	14	9,508					

APPENDIX XI (*c*).

Form IX.

Felling Series Journal for the Sandal Working Circle.

....Felling Series.

in the...Range.

Year.	Coupe number.	Girth class.	Number of trees extracted in each girth class.			Roughwood outturn from each girth class.		Averages.
			Heart-wood.	Sap-wood.	Percentage of Sapwood to total number.	Total lb.	Average per heart-wood tree.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1937–38 ..	IV	0–6″	..	..	..	..	..	Average of C. IV/1st year.
1938–39 ..	V	..	..	..	..	..	..	Average of C. V/2nd year.
Total ..	C. IV and V/two years.	..	..	..	..	..	..	Average of C. IV and V/2nd year.
1939–40 ..	VI	..	..	..	..	..	..	Average of C. VI/3rd year.
Total ..	C. IV—VI/three years.	..	..	..	..	..	..	Average of C. IV–VI/3rd year.
1940–41 ..	I	..	..	..	..	..	..	Average of C. I/4th year.
Total ..	C. IV—I/four years.	..	..	..	..	..	..	Average of C. IV–I/4th year.

and so on for each girth class. As work proceeds from year to year the progressive felling series/village averages must of course be struck by totalling the number of trees extracted in all coupes/villages and the yields obtained and not by "averaging" the averages:—

1937–38 ..	IV	6–12″						
1938–39 .	V							
Total ..	C. IV and V/two years.							
1939–40 ..	VI							
Total ..	C. IV—VI/three years.							
1940–41 ..	I							
			(Space for 10 years in all)					
19		12–18″						
			(Space for 10 years in all)					
		18–24″						
			and so on for higher girth classes.					

Note.—A separate form will be used for each felling series or for the villages in each range.

APPENDIX XI (*d*).

FORM XI.

Control of Fellings in the Fuel and Small Timber Working Circle.

Alangayam Regular Felling Series, Alangayam Range.

Prescribed.—One coupe in each felling series to be worked each year, should there be a demand (Working Plan, paragraph 247).

Prescribed.		Done.			
Year.	Average area of coupe acres.	Coupe number.	Year of working.	Area worked acres.	Remarks.
(1)	(2)	(3)	(4)	(5)	(6)
1937–38					
1938–39					
1939–40					
1940–41					
1941–42					
1942–43	74				
1943–44					
1944–45					
1945–46					
1946–47					

Note.—A separate form will be used for each felling series.

APPENDIX XI (*e*).

FORM XI (*a*).

Record of yield from the Fuel and Small Timber Working Circle.

.... Regular/Reserve Felling Series........................Range

Estimated outturn— ....Tons of firewood per acre.

(Working Plan, paragraph 246) ....cubic feet of small timber per acre.

Year.	Locality worked.		Outturn.		Remarks.
	Coupe number.	Area acres.	Kind.	Quantity.	
(1)	(2)	(3)	(4)		(5)
			Firewood..........tons. Small timber......c. ft.		

Note.—A separate form will be used for each felling series.

APPENDIX XI (*f*).

FORM XII.

Control of Rab Regeneration in the Fuel and Small Timber Working Circle.

.... Regular/Reserve Felling Series......................Range.

Prescriptions (*suggested*).—Rab regeneration limited to half the area of each coupe by the middle of September in the year of felling and over the rest of the coupe during the last week of April following the year of felling (Working Plan paragraph 267).

Prescribed.			Done.			
	Locality.					
Year.	Coupe number.	Area acres.	Year.	Rab area / Coupe area.	Cost rupees.	Remarks.
(1)	(2)	(3)	(4)	(5)	(6)	(7)

Note.—(i) Entries in column (5) should be expressed as a fraction.
(ii) Costs in column (6) will be recorded to the nearest rupee.
(iii) A separate form will be used for each felling series.

APPENDIX XI (*g*).

FORM XIII.

Control of Fellings in the Bamboo Working Circle.

..............................Felling Series..........................Range.

Prescribed.	Done.			
	Coupe number.	Area acres.	Year (s) of actual working.	Remarks.
(1)	(2)	(3)	(4)	(5)
One coupe in each felling series to be worked annually (Working Plan, paragraph 291).				

Note.—A separate form will be used for each felling series.

APPENDIX XI (*h*).

FORM XIII (*a*).

Record of yield for the Bamboo Working Circle.

..........................Felling Series..........................**Range.**

Estimated Outturn.— Not-estimated.

Year.	Locality worked.		Outturn.		Remarks.
	Coupe No.	Area acres.	Kind.	Quantity.*	
(1)	(2)	(3)	(4)	(5)	(6)

Note.—(i) * Denominations—i.e., cart-loads, head-loads, or culms should be clearly recorded, Bambusa arundinacea and Dendrocalamus strictus being sown separately.

(ii) A separate form will be used for each felling series.

APPENDIX XI (*i*).

FORM XIV.

Control of Working in the Minor Forest Produce Working Circle.

Prescribed.		Done.	
Produce and details of work.	Sale Unit.	Year (s) of actual working.	Remarks.
(1)	(2)	(3)	(4)
Konnai bark (*Cassia fistula*).—Each range, including unreserves, but excluding reserves under panchayat management, will be leased every fourth year, the lease period being for one year from the 1st July in the year of the sale (Working plan, paragraph 305).	Alangayam range. Tiruppattur ,, Chengam ,, Krishnagiri ,,		
Avaram (*Cassia auriculata*) *and Sural* (*Ventilago Spp.*) *barks.*—Each range, including unreserves, but excluding reserves under panchayat management, will ordinarily be leased every year for a period of one year from the 1st of July. If however there is a demand leases may be for two or even three years. (Working Plan, paragraph 306.)	Alangayam ,, Tiruppattur ,, Chengam ,, Krishnagiri ,,		
Nux-vomica.—The Krishnagiri range, including unreserves, but excluding reserves under panchayat management, will ordinarily be leased annually, the lease period being for one year from 1st July, but there is no objection to biennial or triennial leases. In the other three ranges nux-vomica will be included with other minor products and leased by blocks. (Working Plan, paragraph 307.)	Krishnagiri ,,		
Gallnuts.—Each range, including unreserves, but excluding reserves under Panchayat management, will ordinarily be leased annually, the lease period being for one year from the 1st July, but there is no objection to biennial or triennial leases. (Working Plan, paragraph 307.)	Alangayam ,, Tiruppattur ,, Chengam ,, Krishnagiri ,,		
Other products.—Blocks, rest-house compounds, etc., will be leased annually, the leased period being for one year from the 1st July. Two or more sale units may be sold together if deemed advisable, or any product singled out and sold separately. (Working Plan, paragraph 308.)	Yelagiri block. Alangayam ,, Athanavoor ,, and so on.		

APPENDIX XI (*j*).

Form XIV.

Record of yield for the Minor Forest Produce Working Circle.

Year.	Range.	Yield (for botanical names see paragraph 89). Per maund of 25 lb.									Per measure.								Cart-load.			Lb.		
		Konnai bark.	Avaram bark.	Sural bark.	Nux-vomica.	Tettankottai.	Tamarind.	Gallnuts.	Soapnuts.	Pungam.	Kamalapodi.	Tagari.	Serankottai.	Kattanarakku.	Nellikai.	Elandi.	Kalakai.	Sarapappu.	Woodapple.	Kavadi grass.	Quarry stone.	Honey.	Bees wax.	Horns.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
1937-38 ..	Alangayam																							
	Tiruppattur																							
	Chengam																							
	Krishnagiri																							
1938-39 ..	Alangayam																							
	Tiruppattur																							
	Chengam																							
	Krishnagiri																							

APPENDIX XI (*k*).

Form XVI.

Control of grazing in the Grazing Working Circle.

Year.	Prescriptions. Closed areas.	Prescriptions. Grazing concessions.	Done. Areas actually closed acres.	Done. Concessions continued.	Remarks.
(1)	(2)	(3)	(4)	(5)	(6)
1937-38 ..	(*a*) *Worked fuel coupes :* Area variable. [Working Plan, paragraph 316 (iii)]. (*b*) *Burnt areas :* (Working Plan, paragraph 326).	*Free grazing :* (Working Plan, paragraph 318).	(*a*) 5,089 (*b*) 1,234 acres in the Alangayam reserve.*	Free grazing permitted in 44 grazing blocks aggregating 4,337 acres.	* C. No....... dated.......
1938-39 ..	Do.	Do.			

APPENDIX XI (*l*).

Record of Works.

Sandal Working Circle.

Prescriptions of Working Plan.		Record of operations carried out.				
Nature of work (with Working Plan Paragraph reference numbers). (1)	Locality. (2)	Nature of work. (3)	Locality. (4)	Area acres. (5)	Cost Rs. (6)	Remarks. (7)
		(*a*) Measures Prescribed.				
1 Climber cutting (at time of marking) wherever necessary. (Working Plan paragraph 232.)	Wherever necessary.					
2 Special protection from fire, of sandalwood trees growing in areas where bamboo has flowered and died. (Working Plan paragraphs 234 and 235.)	Do.					
3 Measures for prevention of the spread of spike disease (Working Plan paragraph 236.)	Do.					

Note.—Costs in column (6) will be recorded to the nearest rupee.

APPENDIX XI (*m*).

Control Journal.

To be written on durable paper and maintained in a loose leaf-file.
The following headings are suggested as a guide :—

Sandal Working Circle .. .. ..

1. Reference to important deviations, if necessary, in amplification of entries in the Register of Deviations.
2. Criticism of prescriptions and suggestions for improvement.
3. Exploitation notes and rates.
4. Climber cutting.
5. Spike.
6. Markets and market conditions.

Fuel and Small Timber Working Circle.

1. Reference to important deviations, if necessary, in amplification of entries in the Register of Deviations.
2. Criticism of prescriptions and suggestions for improvement.
3. Size of coupes.
4. Cutting thorny growth at time of felling.
5. Artificial regeneration-height of rab heaps, dates of burning and sowing, choice of species, tending, soil aeration, etc.
6. Markets and market conditions.

Bamboo Working Circle .. ..

1. Reference to important deviations, if necessary, in amplification of entries in the Register of Deviations.
2. Criticism of prescriptions and suggestions for improvement.
3. Flowering.
4. Injuries, e.g., lopping for fodder.
5. Felling rules—extent to which observed.
6. Markets and market conditions.

Minor Forest Produce Working Circle.

1. Reference to important deviations, if necessary, in amplification of entries in the Register of Deviations.
2. Criticism of prescriptions and suggestions for improvement.
3. Departmental Working, if undertaken, with reasons for the departure from the usual system of leases.
4. Markets and market conditions.

Grazing Working Circle .. ..

1. Reference to important deviations, if necessary, in amplification of entries in the Register of Deviations.
2. Criticism of prescriptions and suggestions for improvement.
3. Exercise of concessions under the Forest Village System Withdrawals from it and additions, if any.
4. Closure of burnt areas.
5. Watering facilities.
6. Cutting and removal of grass from reserves.

Miscellaneous .. .. 1. General protection.
2. Fire protection.
3. Experiments.
4. Roads.
5. Buildings.
6. Wells.
7. Lantana.
8. Boundaries.

Establishment and Labour .. .. 1. Establishment—any change which may be found necessary.
2. Labour—sufficiency or otherwise, wages, etc.

Financial results .. .. To facilitate comparison with working plan forecasts, the financial results will be recorded in the following form. Separate forms will be used for expenditure and revenue and each working circle will be dealt with separately, though not necessarily on a separate form.

EXPENDITURE / REVENUE, 1937–38.

Forecast. (1)	Rupees. (2)	Actuals. (3)	Rupees. (4)	Remarks. (5)
		Sandal Working Circle.		
		Fuel aud Small Timber Working Circle.		

The entries in this form will not be so detailed as those in the financial forecast: they will not show interest charges or overheads such as share of 'direction', and amounts will be rounded off to the nearest rupee. Columns 1 and 2 have been written up in the blank forms for each year of the working plan period and columns 3 to 4 will be completed by the District Forest Officer. Brief reasons for notable variations should be given in column 5.

APPENDIX XI (*n*).

Deviation Statement.

Year........ Working Plan for the Vellore West Division.

Serial number of deviation.	Control form number and page.	Reference to Working Plan.		Nature of deviation.	Remarks.
		Paragraph.	Prescriptions.		
(1)	(2)	(3)	(4)	(5)	(6)

Proceedings of the Chief Conservator of Forests

Proceedings No. 233, Press, 9th May 1939

Working Plan—Vellore West Division—Sanctioned.

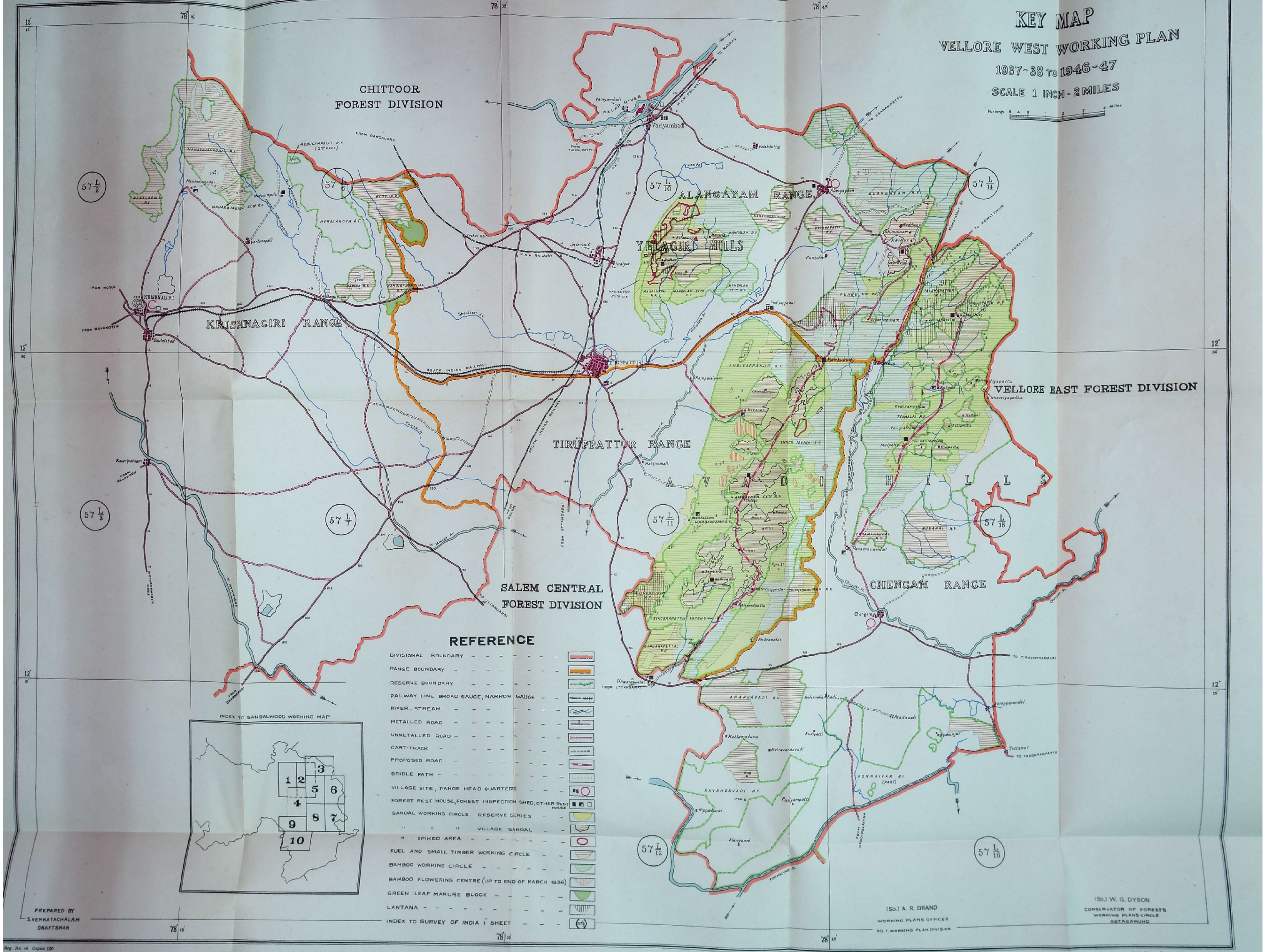
C. C. WILSON, Esq., I.F.S.,
Chief Conservator of Forests.

Proceedings—No. 233, Press, dated 9th May 1939.

Sanctioned.

C. C. WILSON,
Chief Conservator of Forests.

To the Conservator of Forests, Salem Circle.
" District Forest Officer, Vellore West Division.
" Collector, Cuddapah.


KEY MAP
VELLORE WEST WORKING PLAN
1937-38 TO 1946-47
SCALE 1 INCH - 2 MILES
CHITTOOR FOREST DIVISION
VELLORE EAST FOREST DIVISION
SALEM CENTRAL FOREST DIVISION
KRISHNAGIRI RANGE
ALANGAYAM RANGE
YELAGIRI HILLS
TIRUPPATTUR RANGE
JAVADI HILLS
CHENGAM RANGE
REFERENCE
DIVISIONAL BOUNDARY
RANGE BOUNDARY
RESERVE BOUNDARY
RAILWAY LINE BROAD GAUGE, NARROW GAUGE
RIVER, STREAM
METALLED ROAD
UNMETALLED ROAD
CART-TRACK
PROPOSED ROAD
BRIDLE PATH
VILLAGE SITE, RANGE HEAD QUARTERS
FOREST REST HOUSE, FOREST INSPECTION SHED, OTHER REST HOUSE
SANDAL WORKING CIRCLE RESERVE SERIES
" " " VILLAGE SANDAL
" SPIKED AREA
FUEL AND SMALL TIMBER WORKING CIRCLE
BAMBOO WORKING CIRCLE
BAMBOO FLOWERING CENTRE (UP TO END OF MARCH 1936)
GREEN LEAF MANURE BLOCK
LANTANA
INDEX TO SURVEY OF INDIA 1" SHEET
INDEX TO SANDALWOOD WORKING MAP
PREPARED BY S. VENKATACHALAM DRAFTSMAN
(SD.) A. R. BRAND
WORKING PLANS OFFICER
NO. 1. WORKING PLAN DIVISION
(SD.) W. G. DYSON
CONSERVATOR OF FORESTS
WORKING PLANS CIRCLE
OOTACAMUND
Reg. No. 44 Copies 150
Helio-Zinco, Survey Office, Madras. 1938